MITSUBISHI

DIGITAL RECORDER
INSTALLATION AND
OPERATION MANUAL

MODEL
DX-TL1600EM

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SLD Security &
Communications

C E

THIS INSTRUCTION MANUAL IS IMPORTANT TO YOU. PLEASE READ IT BEFORE USING YOUR DIGITAL RECORDER.

Features

DX-TL1600EM Digital Recorder

The DX-TL1600EM is a high resolution digital recorder that records M-JPEG images and can playback over 450 lines of resolution. The DX-TL1600EM has an internal disk capacity of 60GB and record in 5 user selectable picture grades and 8 recording time modes. The DX-TL1600EM also has a built in 16 camera multiplexer with motion detection per input. Individual field recording per input in both standard and alarm recording are supported. Normal VCR like functions such as a JOG/SHUTTLE, Menu, timer and rear terminals are featured.

Built-in 16-input multiplexer functions

• Camera switching and split-screen display

Throughout terminals for non-simultaneous connection of 16 cameras. Split-screen modes of Single screen, SPLIT 4, SPLIT 9 or SPLIT16 screens for sequential display.

• Motion detection

This function detects moving objects captured by any of the 16 cameras connected to the unit, and initiates Alarm Recording. The following settings can be made separately as desired: motion detection area, detection area divided by 10 x 12 dots, sensitivity of motion detection, and minimum dot-count for initiating Alarm Recording.

Archive and copy functions

To handle applications requiring long-term storage of recorded images, this unit is capable of using optional backup /archive devices to create backups and copies without interrupting hard disk recording.

• ARCHIVE media

Backup capability using the recording devices available.

• Backup while recording

Backup and copying operations without interrupting the non-stop recording operation.

Convenient maintenance by using the Timer Program to designate the time of simultaneous backup operation; for example, to create a complete backup on a given day of every week.

• Peripheral hard disk expansion

1 hard disk drive (total capacity becomes 369GB) can be added to supplement the built-in hard disk when extended recording time is needed.

User-friendly operation

A control panel featuring the same control key layout of time-lapse VCRs and a JOG /SHUTTLE is provided for user friendly operations.

Versatile functions to support surveillance

• Image-alteration recognition function

Processing of each image recorded using a proprietary image-alteration recognition technology.

• Versatile high-speed search operation

Easy search functions using a proprietary algorithm. Search options include Time Date, Skip, Index and Alarm search. All search functions can specify a specific camera or ALL cameras to be used for the search.

• Excellent expandability

Standard RS-232C interface for remote PC control, and various control terminals.

• Pre-alarm Recording function

Recording of images before the alarm sensor detects disturbances is also available.

Caution and care

HEAVY OBJECTS SHOULD NEVER BE PLACED ON THE UNIT (E.G., TV)

NEVER TOUCH OR INSERT ANY OBJECT INSIDE THE UNIT
Touching the inside of the cabinet or inserting foreign objects of any kind not only creates a safety hazard but can also cause extensive damage.

PROTECT THE POWER CORD
Damage to the power cord may cause fire or shock hazard. If the mains cord is damaged, switch off the mains outlet and carefully unplug the cord by holding the mains plug.

UNPLUG THE POWER CORD DURING A LONG ABSENCE
Turn off the power and unplug the power cord during a long absence.

MAINTAIN GOOD VENTILATION
Do not obstruct the many ventilation holes on the unit. For maximum ventilation, leave some space around the unit and place the unit on a hard level surface only, and ensure it is not covered during use. Heavy objects should never be placed on the unit.

WHEN NOT IN USE
When not in use always turn OFF the unit's POWER.

CABINET CARE
Never use petroleum-based cleaners. Clean with a soft cloth moistened with soap and water and wipe dry.
PVC cables or leads should not be left in contact with the cabinet surface for long periods.

ATTACHING THE FERRITE CORE
The ferrite core is essential to avoid radio interference from the cables connected the unit against peripheral device. Be sure to attach the ferrite core to all cables connected to ALARM IN terminals (GND terminals) and I/O terminals.

INSTALLATION LOCATION
For excellent performance and lasting reliability install in a location that is:-
1. **Well ventilated, out of direct sunlight and away from direct heat.**
2. **A solid vibration-free surface.**
3. **Free from high humidity, excessive dust and away from magnetic fields.**
4. **Please ensure that the ventilation fan located on the unit's back panel is not blocked.**

UNSUITABLE LOCATIONS
Placing the unit in the following places might shorten the product life:
- **Extremely cold places, such as refrigerated warehouses and ice houses**
- **Places where excessive hydrogen sulfide is likely to be generated, such as hot-springs areas**
- **Places or locations with salt air environment.**

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. THIS APPARATUS MUST BE GROUNDED.

MAINS LEAD CONNECTION
The mains lead on this Unit is fitted with a non-rewireable mains plug, incorporating a 5A fuse. If you need to replace the fuse, use a 5A fuse approved by BSI or ASTA to BS 1362, ensuring you refit the fuse cover. If the mains plug is not suitable for the sockets in your home, and you require to remove the plug, remove the fuse, cut off the plug then dispose of the plug immediately, to avoid a possible electric shock hazard. To refit a new plug, follow these instructions; Green-and-yellow: Earth, Blue: Neutral and Brown: Live.
As the colours in the mains lead of this Unit may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
•The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
•The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
•The wire which is coloured blown must be connected to the terminal which is marked with the letter L or coloured red.

This Unit complies with the requirements of the EC Directive 89/336/EEC, "EMC Directive" , as amended by Directive 93/68/EEC. The requirements for the susceptibility according to EN 55024 and the requirements for interference according to EN 55022 are observed for the operation on residential areas, business, light industrial premises and in small scale enterprises, inside as well as outside of the building. All places of operation are characterised by their connection to the public low voltage power supply system. This unit is manufactured in accordance with EN 60950.

There may be cases when the unit's built-in MOTION DETECTION function does not operate properly due to external condition or video input signal or other factors.

The user will not be indemnified for problems (e.g., recording failure or playback failure) that occur with either the unit or a connected device during operation. It is recommended that backups of important recordings are made regularly as a precaution against possible breakdowns and accidents.
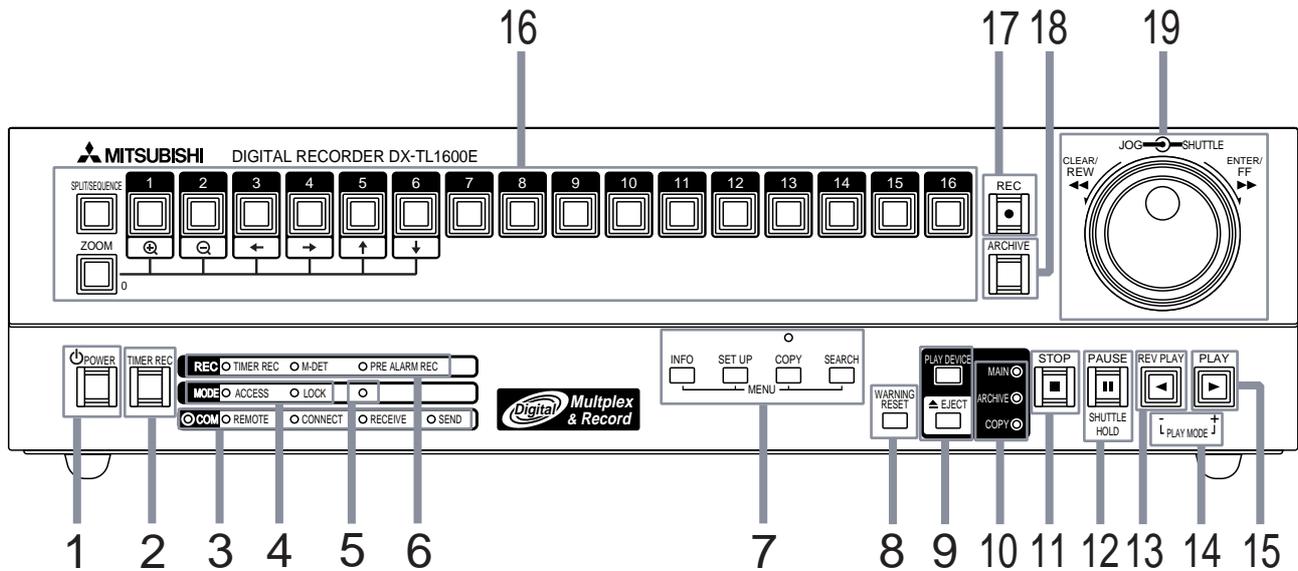
Beginning

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Major operations and their functions

■ Front View

1. POWER button

Press to turn the power on, press again to turn the power off. This button lights/goes off when the power is on/off. It flashes when switching between functions such as during setup. While the POWER button is flashing, all button related functions will not work.

2. TIMER REC button

This button is pressed when a timer recording is to be made. Press again to cancel timer recording.

3. COM (COMMUNICATION) button

Please press this button to make the communication settings. Use a ballpoint pen or a similar instrument. The settings can be cancelled by pressing the button one more time. Also, please note that the RS-232C setting located on the back of the unit will not function when the communication setting button is pressed.

COMMUNICATION indicator

REMOTE indicator

Illuminates while the recorder is engaged in data communication.

CONNECT indicator

Illuminates when connection to an external communication device has been established.

RECEIVE indicator

Illuminates when the unit is receiving a signal.

SEND indicator

Illuminates when the unit is transmitting a signal.

4. MODE indicators

ACCESS indicator

Illuminates during access to hard disk drive or peripheral recording devices.

LOCK indicator

Illuminates when the LOCK button is set to "ON".

5. LOCK button

Press this button to lock the unit front panel. When pressed with a ball point pen or similar object, keeps the operation buttons from functioning and locks the unit in the current mode. Release the lock by pressing the LOCK button again. This button also can be used for PASSWORD LOCK function. Refer to page 64 for details. This function will not work when power is off. In addition, this function can only be used until the password lock function is set. Once the password lock function has been set, the SIMPLE LOCK FUNCTION becomes inoperative.

6. Recording indicators

TIMER REC indicator

Illuminates during timer recording and timer recording stand-by mode. The POWER button will not work while the TIMER REC indicator is illuminating. To turn on the power while the TIMER REC indicator is illuminating, press the TIMER REC button to cancel the timer recording stand-by mode and then press the POWER button.

M-DET indicator

Illuminates when the MOTION DETECTION is active mode.

PRE ALARM REC indicator

Illuminate during pre-alarm recording and pre-alarm recording stand-by mode.

7. MENU buttons

Press one of the buttons to display its associated menu. Press again to exit the menu.

INFO button
Press this button to display the <INFORMATION> menu.

SET UP button
Press this button to display the <MENU SETTING> menu.

COPY button
Press this button to display the <COPY SELECTION> menu. This button does not work if the peripheral device is not connected to SCSI ID 4 or SCSI ID 5.

SEARCH button
Press this button to display the <SEARCH SELECTION> menu.

COPY indicator
The Indicator will start to blink during Copy or Restore operation. This light is on while recorded content is being copied or during Restore operation.

8. WARNING RESET button
Used to clear a warning displayed on the monitor.

9. PLAY DEVICE button
Used to select a playback device. If there is no peripheral recording device connected, this button cannot be activated.

EJECT button
Used to eject the medium of playback devices. Use this button to eject the medium of peripheral recording devices connected to this unit. If there is no peripheral recording device connected, this button cannot be used.

10. PLAY DEVICE indicators
The indicator of the device selected by the PLAY DEVICE button illuminates.

11. STOP button
Press to stop recording or playback. When pressed during alarm recording, the recording stops. The MOTION DETECTION function, the operation can be frozen for two seconds after pressing the STOP button to stop the recording by the MOTION DETECTION function.

12. PAUSE button
When pressed during recording, the recording pauses. Press again to resume recording. When pressed during playback, a still picture is displayed.

SHUTTLE HOLD button
This button keeps the particular playback or reverse playback speed depending on the degree to which the SHUTTLE ring is turned. Refer to the page 56 for operating this button.

13. REV PLAY button
Press to begin reverse playback.

14. PLAY MODE buttons
These buttons can be used to switch the playback interval while in playback mode and reverse playback mode.

15. PLAY button
Press to begin playback.

16. Multiplexer buttons

Camera number button (1 to 16)
Press the button to display the image of the camera connected to this unit on the monitor. In addition, they can be used as the PASSWORD LOCK function key.

SPLIT/SEQUENCE button
Used to switch the display to the single screen, SPLIT 4 , SPLIT 9 screen or SPLIT 16 screen. Also used to switch the sequence functions. Refer to page 42 for details.

ZOOM button
Pressing this button displays the Zoom in pointer (X) on the monitor. Pressing 1 button (ZOOM IN) enlarges the selected part, and pressing 2 button (ZOOM OUT) reduces the image. Pressing 3, 4, 5 or 6 button moves the image to the direction that the pointer (X) moves. In addition, this can be used as the PASSWORD LOCK function key.

ZOOM IN button (Camera number button 1)
Pressing this button after pressing the ZOOM button enlarges the image in 2 steps.

ZOOM OUT button (Camera number button 2)
Pressing this button after pressing the ZOOM IN button reduces the image.

Move buttons (Camera number button 3 to 6)
Press these buttons to move the ZOOM POINTER to desired position.

17. REC button
Press to begin recording.

18. ARCHIVE button
Press to begin making backup. If there is no peripheral recording device connected, this button cannot be used.

19. JOG and SHUTTLE operation

SHUTTLE ring
Used to set various menus and search functions, adjusting the playback speed, and rewinding or forwarding the image.

JOG dial
Used to set various menus and search functions, forwarding or reversing the image during playback (field-by-field).

Beginning

■ **Rear View**
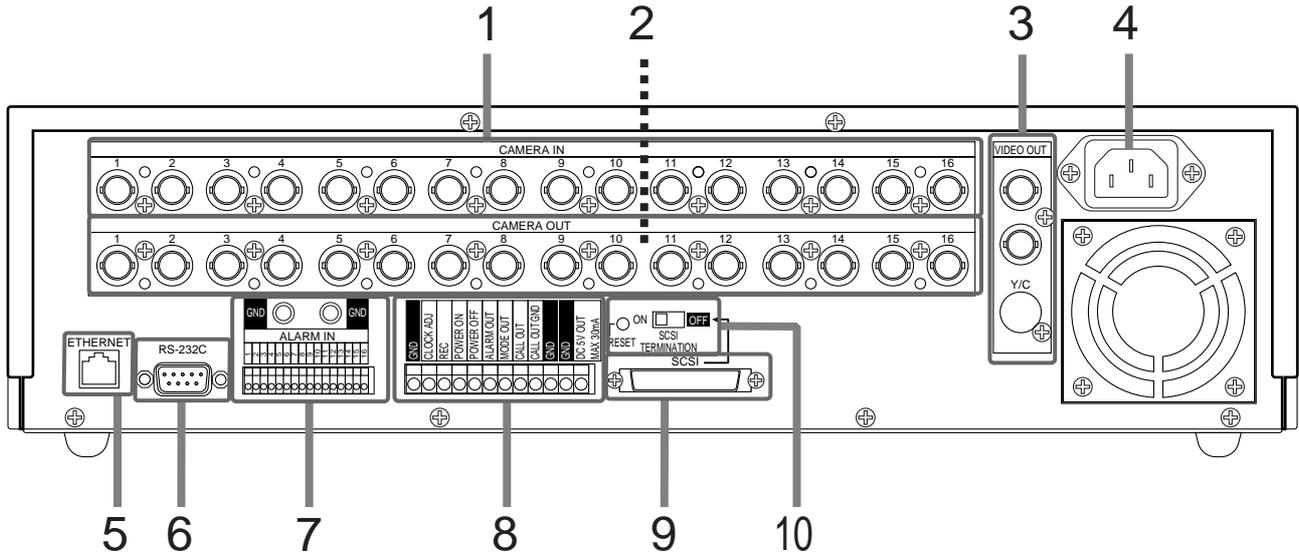
1. CAMERA IN connectors
Input connector for signal of camera (BNC connector).

2. CAMERA OUT connectors
Output connector for signal of camera which is provided via CAMERA IN (BNC connector).

3. VIDEO OUT connectors
Output connector for video signal to monitor(BNC connector).

S(Y/C) OUT connector
Output connector for separate Luminance and Chrominance signal. Output signal with VIDEO OUT connector at the same time.

4. AC power socket
This socket connects to the power cord. Earth terminal is for safety. Use the 100 - 240V plug with earth for the power of this unit.

➡ Do not connect the earth terminal of a plug to gas pipe, water pipe, lightning rod and so on.

5. ETHERNET socket
Use in combination with the PC software DX-PC3. For further information, please refer to the DX-PC3 user's manual. Use a 10BaseT cable to connect to the Ethernet terminal. Please note, however, that only category 3 and category 5 10BaseT cables can be used. Please do not connect the unit to a common network.

6. RS-232C socket
This terminal is used to connect to host device with RS-232C terminal. This unit can be controlled by the other device through this terminal.

7. ALARM IN terminals
Input terminal for alarm signal.

GND terminals
Input ground terminal for ALARM IN terminal. Use only the terminal for this unit. It may cause damage or poor connection.

8. I/O terminals
Refer to notes on page 9.

9. SCSI terminal
This terminal is for connecting this unit to other optional peripheral recording devices.

10. RESET button
When pressed, the present time is erased and initialized, then the power is turned off.

SCSI TERMINATION switch
When set to "ON", the internal terminator function is active, and when set to "OFF", the function is provided by the peripheral device. Set it to "ON" when not connecting to a peripheral SCSI device.

■ I/O terminals

GND terminals
The ground terminals for Input/Output terminals.

CLOCK ADJ terminal
Input terminal to set the present time. Time display is adjusted to the nearest hour (00 minutes 00 seconds) when this terminal receives the CLOCK ADJ signal.

REC terminal
Input terminal to start recording.

POWER ON terminal
Input terminal to turn on this unit through a peripheral device.

POWER OFF terminal
Input terminal to turn off this unit through a peripheral device.

ALARM OUT terminal
Output terminal to indicate that the alarm recording is in process.

MODE OUT terminal
Output terminal to indicate the unit's current mode. Select the unit's condition by MODE OUT setting in the <REAR TERMINAL> menu.

CALL OUT terminal / CALL OUT GND terminal
This is the ISOLATION output terminal. (Refer to page 85.) Output terminal and its GND terminal to indicate information such as "HDD FULL". Information that can be transmitted externally consists of CALL OUT settings made on the I/O terminal settings menu screen as well as fixed output settings.

DC 5V OUT terminal
This terminal is for direct current voltage output. The maximum electric current is 30mA.

Basic Operations

■ How to use JOG dial and SHUTTLE ring

The JOG/SHUTTLE is used in the various Menus and for special playback features. In the Menu process, the Jog dial is used to navigate through the units Menus and Sub-menus. It is also used to change the individual Menu settings. The SHUTTLE is used to select a specific Menu and to select the needed entry in the individual Menu settings. Follow the example below to learn how to use the JOG/SHUTTLE in a Menu application.

♦ Setting the character size

Example: Setting the CHARACTER SIZE to "LARGE" (the default setting is "SMALL").

1. Press the SET UP button on the front of the Unit.
   • The <MENU SETTING> menu will appear.

```
<MENU SETTING>
▶TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
```

2. Make sure that the cursor is set to the TIME DATE DISPLAY and turn the SHUTTLE ring to the right.
   • Turning the SHUTTLE ring to the right displays the next menu.

SHUTTLE ring

3. Turn the JOG dial to select the CHARACTER SIZE.
   • Turning the JOG dial to the right moves the cursor downward. Turning the JOG dial to the left moves the cursor upward.

JOG dial

4. Turn the SHUTTLE ring to the right to flash the sub-item.
   • The sub-item "SMALL" will start flashing.

```
<TIME DATE DISPLAY>
 DISPLAY MODE        1
▶CHARACTER SIZE   SMALL
 CLOCK LOCATION     OFF
```
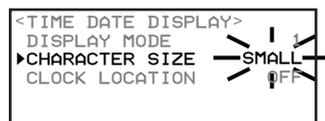
➡ While the sub-item is flashing, the menu display will not disappear when you press the SET UP button.

5. Turn the JOG dial to change the sub-item to "LARGE".
   • The "LARGE" will start flashing.

```
<TIME DATE DISPLAY>
 DISPLAY MODE        1
▶CHARACTER SIZE   LARGE
 CLOCK LOCATION     OFF
```

6. Turn the SHUTTLE ring to the right to enter the selection.
   • The sub-item will stop flashing.

```
<TIME DATE DISPLAY>
 DISPLAY MODE        1
▶CHARACTER SIZE   LARGE
 CLOCK LOCATION     OFF
```

♦ Exiting the menu

The following explains how to exit the menu using JOG dial and the SHUTTLE ring.

Example: Exiting the <TIME DATE DISPLAY> menu after setting the character size.

1. Make sure that the sub-item of the selected item is not flashing and changed correctly.
   • If the sub-item is flashing, that item is not entered. See steps 4 on the left and enter the setting.

```
<TIME DATE DISPLAY>
 DISPLAY MODE        1
▶CHARACTER SIZE   LARGE
 CLOCK LOCATION     OFF
```

•To set additional settings or to confirm the settings, turning the SHUTTLE ring once to the left displays the previous menu.

```
<MENU SETTING>
▶TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
```

2. Turn the SHUTTLE ring twice to the left .
   • The display will return to the present time display.
   • Pressing the MENU button which is pressed to display the MAIN MENU also returns the menu display to the present time display.

```
INFO    SET UP   COPY   SEARCH
                MENU
```
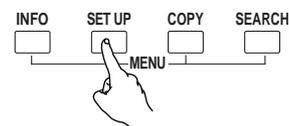
INFORMATION   There are 4 different types of MAIN MENU as shown below:

1) The <MENU SETTING> menu (press the SET UP button to display the menu).

```
<MENU SETTING>
▶TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
 NORMAL REC SETTING
 A-REC/M-DET SETTING
 DATA CLEAR SELECTION
 COMMUNICATION SETTING
 REAR TERMINAL
 SERVICE
 INITIAL SET UP
```

2) The <SEARCH SELECTION> menu (press the SEARCH button to display the menu).

```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.ALL
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH

 JUMP TO START POINT
```
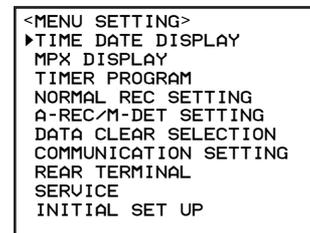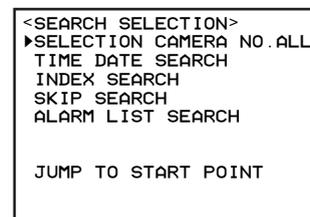
3) The <INFORMATION> menu (press the INFO button to display the menu).

```
<INFORMATION>
▶RECORDED PERIOD
 CONNECTED SCSI DEVICE



<ELAPSED TIME>
 MAIN              2H
 ARCHIVE           0H
 COPY              0H
```
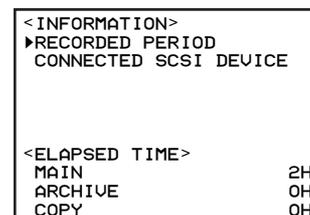
4) The <COPY SELECTION> menu (press the COPY button to display the menu).

```
<COPY SELECTION>
▶COPY DIRECTION HDD→COPY
 OVERWRITE          OFF
 TRANSFER PERIOD    MAN
 FROM:06-09-01 18:43:52
   TO:06-10-01 18:43:52
 EXECUTE            OFF
```

☞ Refer to "Menu functions" on pages 22 - 24 for the construction of the menus.

♦ **Setting the present time**
Please follow steps below to set the present time.

Example: Setting the present time to 6:30 p.m., March 15, 2001.

1. Press the SET UP button.
  • **The <MENU SETTING > menu will appear.**

```
<MENU SETTING>
▶TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
```

2. Turn the JOG dial to select the INITIAL SET UP, and turn the SHUTTLE ring to the right.
  • **The <INITIAL SET UP> menu will appear.**

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT            ON
```

3. Confirm that the cursor is next to the TIME DATE ADJUST, and turn the SHUTTLE ring to the right.
  • **The <TIME DATE ADJUST> menu will appear.**

4. Turn the SHUTTLE ring to the right twice.
  • **The sub-item of DATE will start flashing.**

```
<TIME DATE ADJUST>
 DAYLIGHT SAVING     OUT
 DATE                 01
 MONTH                01
 YEAR               2000
```

5. Turn the JOG dial to set the date number to 15, and turn the SHUTTLE ring to the right.
  • **The sub-item of MONTH will start flashing.**

```
<TIME DATE ADJUST>
 DAYLIGHT SAVING     OUT
 DATE                 15
 MONTH                01
 YEAR               2000
```

6. Set the month, year, hour, 10 minute digit and minute digit in a similar fashion.
  • **Seconds cannot be set.**
  • **The sub-item of DAYLIGHT SAVING will flash when you turn the SHUTTLE ring to the right after setting the minute.**

```
<TIME DATE ADJUST>
 DAYLIGHT SAVING     OUT
 DATE                 15
 MONTH                03
 YEAR               2001
 TIME            18:30:00

 TURN THE SHUTTLE RING
 << TO EXECUTE.
```

7. Turn the SHUTTLE ring to the left to accept the setting.
  • **The seconds value is reset to "00", and the display will return to the <INITIAL SET UP> menu.**

♦ **The daylight saving**
The clock is put forward one hour by setting the menu. The default setting for this function is "OUT". On the DAYLIGHT SAVING in <TIME DATE ADJUST > menu, turn the JOG dial to flash "IN" (the daylight saving function is activating) and turn the SHUTTLE ring to the right to enter the selection.

♦ **Present time display**
The following display will appear when this unit is turned on. (When the DISPLAY MODE is set to "3".)

Date Month Year Day of the week Alarm recording number

```
01-01-2001  MON  A0001
00:00:00☐25F      50% C01
```

Time Minute Second Non-operation camera mark Recording interval Recorded capacity of the Hard Disk Camera number

☞ Refer to "Setting Display Mode" on page 25 for detailed settings of the display.

➡ Alarm recording number will be displayed during alarm recording.

➡ If a picture of the camera which is not set to be operated is displayed on the screen, Non-operation Camera mark will be shown on the present time display.

➡ The amount of space used in the total HDD including external devices is displayed during recording. When recording is stopped, this figure will not be displayed. (It will stay displayed during PAUSE.) When recording is started again, this figure will appear again after a few moments.

| INFORMATION | This unit has a four-digit year display. It can display dates from January 1, 2000 to December 31, 2030. It also has a built-in function to automatically calculate leap years. After December 31, 2030, the date indicator will return to 2000.

| INFORMATION | The on-screen clock can be reset to the nearest hour, by applying a signal to the CLOCK ADJ terminal. For example, if the current time is 11:29:59, it will be reset to 11:00:00, and if the current time is 11:30:00, it will be reset to 12:00:00.

Basic Operations

♦ Storage space indicator function

This unit is capable of constantly displaying the amount of data recorded in the recording device designated on-screen (i.e., the main unit or an archive device Glossary).

Also, when the designated remaining amount has been reached, the amount used (%) display will begin flashing. In the case of the HDD, the percent displayed is the percentage relative to the entire HDD storage capacity as recognized in the MAIN HDD setting. In the case of the backup device, the percentage is relative to the storage capacity of the medium. The following settings are necessary to bring these functions into effect.

1) On the <REAR TERMINAL> menu, use CAPACITY REMAIN to select the device and set the remaining capacity (refer to page 27).

2) On the <TIME DATE DISPLAY> menu, set the DISPLAY MODE to "3" (refer to page 25).

3) Select one screen using the multiplexer buttons. When using the multiple screen display, set the CH. TITLE parameter on the <MPX DISPLAY> menu to NONE (refer to page 45).

■ Multiplexer functions

You can activated multiplexer functions by using the multiplexer buttons found on front of the unit.

♦ Multiplexer buttons

1. Camera number buttons (1 to 16)
2. SPLIT/SEQUENCE button
6. MOVE buttons
5. ZOOM OUT button
4. ZOOM IN button
3. ZOOM button
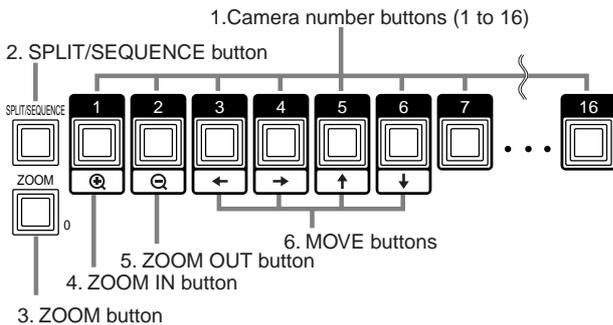
⚠ You cannot operate the multiplexer buttons when the menu is displayed on screen. The multiplexer functions does not work when the unit is accessing the peripheral recording device or ARCHIVE button, COPY button or PLAY button is flashing.

1. Camera number buttons

By pressing these buttons, the images from cameras connected to CAMERA IN terminals at the rear of the unit will be displayed on screen. If the images of the camera that is not set to be operated is selected on the <DEFINE GROUP SETTING> menu, the Non-operation camera mark will be displayed on screen.

```
09-06-2001 SAT
00:00:00Ø25F
```

Non-operation camera mark
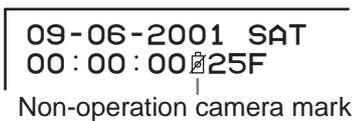
▶ By pressing the camera number buttons, you can view the video from the camera even it is not set to be recorded.

2. SPLIT/SEQUENCE button

Display of the SPLIT 16, SPLIT 9 (a, b), and the four types of SPLIT 4 (a – d) set in SPLIT SCREEN of the MULTIPLEXER settings is switched in the following order: SINGLE SCREEN SEQUENTIAL, SPLIT 4 SEQUENTIAL, SPLIT 9 SEQUENTIAL. (Sequential displays are skipped during playback.) In addition, the unit can also be set to switch between SINGLE SCREEN SEQUENTIAL and SPLIT 4 SEQUENTIAL/SPLIT 9 SEQUENTIAL displays.

3. ZOOM button

When this button is pressed, the ZOOM POINTER (X) appears on the screen. **By pressing this button, Camera number buttons 1 to 6 change its function as follows:**

4. ZOOM IN button (Camera number button 1)

Press this button after pressing ZOOM button, the displayed picture will be enlarged by 2 steps: twice as large and 4 times as large as the original picture size. The enlarging ratio will be displayed on the top left-hand corner of the screen.

5. ZOOM OUT button (Camera number button 2)

Press this button anytime after operating ZOOM button and ZOOM IN button, the picture size will be reduced in 2 steps from the enlarged picture. The enlagement ratio will be displayed on the top left-hand corner of the screen.

6. MOVE buttons (Camera number buttons 3 to 6)

Using these MOVE buttons, the pointer (X) activated by the ZOOM button can be moved to a different area that you wish to have enlarged. After using camera number button 1 to enlarge the image, these buttons can be used to move the magnified area. For more details please refer to "Multiplexer buttons" on page 41.

■ Basic recording

For details of each setting, please refer to the following pages of this instruction manual:

After confirming all settings of recording, please proceed as written below.

♦ Setting the image quality

Two modes of recording are supported by this unit. Normal Recording enables none Alarm recording. For example to see activity at a cash register through out the day. Alarm recording is set to record activity only when an alarm sensor or if motion detection is set to monitor and trigger an alarm when a specific door is opened. Recording criteria such as Image quality (grade), Fields and for Alarm, Time needs to be set for the record process. For details of Normal recording refer to the steps given below.

Example: Setting the image quality to "STANDARD" (the default setting is "HIGH").

1. Turn the unit on after turning the peripheral recording device on.

▶ If the <DEVICE CHECK> menu appears at this stage, the setting of the peripheral recording device may have been changed. For details please refer to "How to install an external hard disk drive " on page 20.

2. Press the SET UP button to display the <MENU SETTING> menu.

3. Turn the JOG dial to move the cursor (▶) to NORMAL REC SETTING then turn the SHUTTLE ring to the right.
- **The <NORMAL REC SETTING> menu appears.**

```
<NORMAL REC SETTING>
▶IMAGE QUALITY      HIGH
 MAX REC FIELDS    12.5F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

4. Check that the cursor is next to the IMAGE QUALITY and turn the SHUTTLE ring to the right.
- **The sub-item of IMAGE QUALITY will start flashing.**

```
<NORMAL REC SETTING>
▶IMAGE QUALITY      HIGH
 MAX REC FIELDS    12.5F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

5. Display STANDARD by turning the JOG dial then turn the SHUTTLE ring to the right.
- **The flashing will stop. Now the setting has been completed.**

```
<NORMAL REC SETTING>
▶IMAGE QUALITY   STANDARD
 MAX REC FIELDS    12.5F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

Other settings By turning the JOG dial, the image quality setting will be changed as below :

→HIGH ↔ SUPERIOR ↔ BASIC ←
→ MEDIUM ↔ STANDARD ←

♦ Setting the maximum recording fields
Example: Setting the maximum recording fields to "6.25F" (the default setting is "12.5F").

1. After step 5 of IMAGE QUALITY setting procedures above, turn the JOG dial and move the cursor to "MAX REC FIELDS".

```
<NORMAL REC SETTING>
 IMAGE QUALITY   STANDARD
▶MAX REC FIELDS    12.5F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

2. Turn the SHUTTLE ring to the right to flash the sub-item.

```
<NORMAL REC SETTING>
 IMAGE QUALITY   STANDARD
▶MAX REC FIELDS    12.5F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

3. Turn the JOG dial to display "6.25F" then turn the SHUTTLE ring to the right.
- **The "6.25F" is now selected.**

```
<NORMAL REC SETTING>
 IMAGE QUALITY   STANDARD
▶MAX REC FIELDS     6.25F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

Other settings By turning the JOG dial, the maximum recording fields setting will be changed as below:

→25F ↔12.5F↔ 8.33F ↔ 6.25F ←
→1F ↔2.5F ↔ 4.17F↔ 5F ←
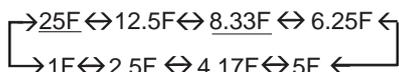
➡ The underlined items cannot be selected when the MOTION DETECTION setting is active.

➡ When MOTION DETECTION setting in the INITIAL SET UP menu is turned ON, the MAX REC FIELDS for each time setting will be automatically altered as follows. These settings will not automatically revert to their former values even if MOTION DETECTION is turned OFF.

Case of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu.
"25F" ➜ "12.5F", "8.33F" ➜ "6.25F" , "5F" ➜ "4.17F"

Case of "MODE" in the <TIMER PROGRAM> menu.
"25" ➜ "12.5", "8.33" ➜ "6.25" , "5" ➜ "4.17"

➡ The setting you are making here is only for the normal recording, NOT for the timer recording or alarm recording. You need to make the timer recording settings on the <TIMER PROGRAM> menu. And you need to make the alarm recording setting on the <A-REC/M-DET SETTING> menu. For details please refer to "Various recording settings" on page 35.

➡ The settings made for IMAGE QUALITY and MAX REC FIELDS are shared with A, B, and C of SELECT REC MODE.

➡ Press the SET UP button to exit settings.

4. Check the estimated recording time.
- **After setting the image quality the <ESTD TIME> will be displayed. By changing recording settings, <ESTD TIME> will change its length of time (Alarm recording setting does not affect this setting).**

```
<NORMAL REC SETTING>
 IMAGE QUALITY   STANDARD
▶MAX REC FIELDS     6.25F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING




<ESTD TIME>      1D12H11M
```

➡ The available recording time will be changed depending on the setting of the image quality and the max recording fields. This estimated recording time display will include all HDD including external devices. For available recording time, please refer to "Recording time table" on pages 81.

♦ Selecting the recording mode of the cameras
There are 3 types of the recording mode : A, B and C. This setting is to choose the SELECT REC MODE on the <NORMAL REC SETTING> menu.

Example: Choose SELECT REC MODE (B) (the default setting is (A)).

1. After step 3 of MAX REC FIELDS setting procedures above, turn the JOG dial and move the cursor to "SELECT REC MODE".

```
<NORMAL REC SETTING>
 IMAGE QUALITY   STANDARD
 MAX REC FIELDS     6.25F
▶SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

Basic Operations

2. Turn the SHUTTLE ring to the right to flash the sub-item.

```
<NORMAL REC SETTING>
 IMAGE QUALITY  STANDARD
 MAX REC FIELDS    6.25F
▶SELECT REC MODE     (A)
 DEFINE GROUP SETTING
```

3. Turn the JOG dial to display MODE (B) then turn the SHUTTLE ring to the right.
  • **The "(B)" is now selected.**

```
<NORMAL REC SETTING>
 IMAGE QUALITY  STANDARD
 MAX REC FIELDS    6.25F
▶SELECT REC MODE     (B)
 DEFINE GROUP SETTING
```

➡ Setting cannot be altered in either the NORMAL REC SETTING menu or the A-REC/M-DET SETTING menu when the PRE A-REC menu is set to SHORT, MEDIUM, or LONG. In addition, the SELECT REC MODE (in the <NORMAL REC SETTING> menu) will display A-REC.

♦ Setting the define group

The PRI(PRIORITY) setting can be made for individual camera channels in each of the define groups A, B, and C. This PRI(PRIORITY) setting is made by entering " 1 " in the desired camera channel. If you don't record in that camera channel, you select the " – ". In addition, the recording frequency can be adjusted for camera channels using the PRI (PRIORITY) setting.

Example: Setting the CAMERA CH.② as PRI to " 2 ", CAMERA CH.③ as PRI to " 3 ", CAMERA CH.④ as PRI to " 5 " and CAMERA CH. ⑤ - ⑨ as PRI to " - " (the default setting is CAMERA CH. ① - ④ as PRI to " 1 " and CAMERA CH. ⑤ - ⑯ as PRI to " - ").

1. After step 3 of SELECT REC MODE setting procedures above, turn the JOG dial and move the cursor to "DEFINE GROUP SETTING" and turn the SHUTTLE ring to the right.
  • **The <DEFINE GROUP> menu appears.**

```
<DEFINE GROUP>         (B)
CH PRI FILD  CH PRI FILD
▶① 1 1.56   ⑨  -
 ② 1 1.56   ⑩  -
 ③ 1 1.56   ⑪  -
 ④ 1 1.56   ⑫  -
 ⑤  -        ⑬  -
 ⑥  -        ⑭  -
 ⑦  -        ⑮  -
 ⑧  -        ⑯  -
```
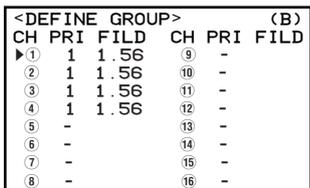
2. Turn the JOG dial to select the CAMERA CH.② and turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

```
<DEFINE GROUP>         (B)
CH PRI FILD  CH PRI FILD
 ① 1 1.56   ⑨  -
▶② 1 1.56   ⑩  -
 ③ 1 1.56   ⑪  -
 ④ 1 1.56   ⑫  -
 ⑤  -        ⑬  -
```
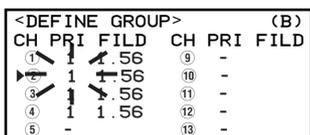
3. Turn the JOG dial to display "2" then turn the SHUTTLE ring to the right.
  • **The "2" is now selected.**

```
<DEFINE GROUP>         (B)
CH PRI FILD  CH PRI FILD
 ① 1 1.56   ⑨  -
▶② 2 0.78   ⑩  -
 ③ 1 1.56   ⑪  -
 ④ 1 1.56   ⑫  -
 ⑤  -        ⑬  -
```
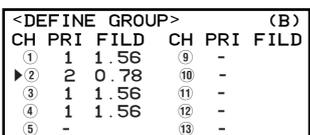
4. Repeat Step 2 and 3 setting CAMERA CH.③, ④ and turn the SHUTTLE ring to the right .
  • **The sub-item will stop flashing. Check that the CAMERA CH. is defined correctly.**

```
<DEFINE GROUP>         (B)
CH PRI FILD  CH PRI FILD
 ① 1 1.56   ⑨  -
 ② 2 0.78   ⑩  -
 ③ 3 0.52   ⑪  -
 ④ 5 0.31   ⑫  -
▶⑤  -        ⑬  -
 ⑥  -        ⑭  -
```
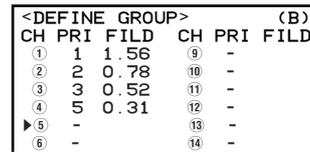
➡ In DEFINE GROUP, each camera channel (A, B, C) used in SELECT REC MODE must be assigned at least one PRIORITY setting (from 1 – 5). Please note that you cannot exit the settings menu screen until each SELECT REC MODE is given at least one PRIORITY setting.

➡ By turning the JOG dial, the priority setting will be changed as below:

$$1 \leftrightarrow 2 \leftrightarrow 3$$
$$- \leftrightarrow 5 \leftrightarrow 4$$
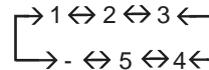
➡ For camera channels with the PRIORITY setting "ON", the recording interval set in MAX REC FIELDS is divided according to the value entered in the PRI setting. The unit will record one time using the value entered in the PRI setting. The operation of the "FILD (FIELDS)" setting could vary. While the recording interval could change for each of the camera channels, regardless of the PRIORITY setting made, the total number of fields (Max. Rec field)will not change.

5. Press the SET UP button to go back to the present time display.
  • **Press the camera number button and confirm if there is a picture to the CH you have selected to be recorded.**

6. Press the REC button.
  • **The REC button starts illuminating and the recording starts.**
  • **If you press the PAUSE button during recording, recording will be in pause mode. To release it, press the pause button again.**

7. Press the STOP button to stop recording.
  • **The REC button will stop illuminating.**

INFORMATION   A warning appears when the unit records while there is no input signal in the designated camera channel. (Please refer to "Warnings and CALL OUT output" on page 84 for more details.) In addition, please select " - " in the <DEFINE GROUP> menu for those cameras with no input, or that should not be used.

■ Basic playback

The recorded image can be played back in various ways. In this Basic Operations, the most basic playback function is explained. Refer to the pages shown below for the other playback functions.

☞ Please refer to page 56 for Various playback functions.

1. Turn on the power of the connected peripheral recording device , then turn this unit on.

2. Select the playback device.
• Press the PLAY DEVICE button on the front panel to select the playback device. The indicator of the selected device will illuminate. (The indicator will not switch when a peripheral recording device is not connected.)

PLAY DEVICE

3. Press the PLAY button.
• After displaying a paused image, playback will begin.

• The oldest recording will be played back when pressing the PLAY button for the first time after the power is turned on or the recording is finished. If you want to playback the newest recorded data, press the REV PLAY button before pressing the PLAY button after finishing recording.

4. Press the PAUSE button to pause playback.
• Press the PAUSE button again to resume playback.

5. Press the STOP button to stop playback.

INFORMATION   When recording with more than one camera, the playback interval per camera will be the time that multiplies the recording interval by the number of the cameras.

■ Basic searching function

This unit has various functions for searching a specific point. The following explains time date search. By using this function, you can search for a specified point of the data by setting the selected camera number, date, hour, and minutes. Refer to pages 57 - 59 for the other searching functions.

♦ Time date search

Example: To search a recording which was made on May 17 2001, 9:25:40 p.m. by the camera number ③.

1. Press the SEARCH button to display the <SEARCH SELECTION> menu.

```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.ALL
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```
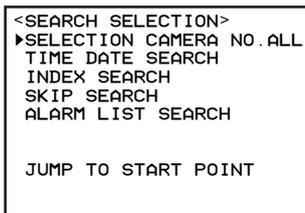
2. Make sure that the cursor (▶) is set to the <SELECTION CAMERA NO.> menu, and turn the SHUTTLE ring to the right.
• The sub-item of <SELECTION CAMERA NO.> will start flashing.

```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.ALL
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```
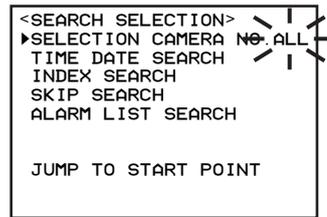
3.Turn the JOG dial to display " ③" then turn the SHUTTLE ring to the right.
• The flashing will stop.
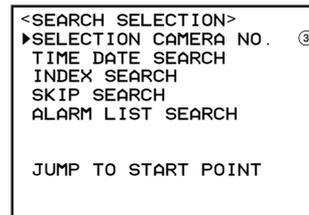
```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.   ③
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```

Other settings   By turn the JOG dial, the selection camera number will be changed as below :

→ ALL ⟷ ① ⟷ ② ⟷ ③ ⟷ ④ ⟷ ⑤ ⟷ ⑥ ⟷ ⑦ ←
→ ⑯ ⟷ ⑮ ⟷ ⑭ ⟷ ⑬ ⟷ ⑫ ⟷ ⑪ ⟷ ⑩ ⟷ ⑨ ⟷ ⑧ ←

4. Turn the JOG dial to select the TIME DATE SEARCH, and turn the SHUTTLE ring to the right.
• The <TIME DATE SEARCH> menu will appear and the date number will start flashing.

```
<TIME DATE SEARCH>      ③

 01-01-2000 00:00:00

 EXECUTE OFF
```

➡ To exit the <TIME DATE SEARCH> menu without activating the search, press the SEARCH button on the front of the unit.

5. Turn the JOG dial to set the date number to 17.
• Turn the SHUTTLE ring to the right. The next item will start flashing.

```
<TIME DATE SEARCH>      ③

 05-01-2000 00:00:00

 EXECUTE OFF
```
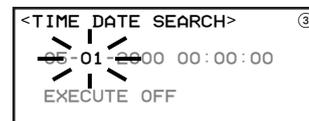
6. Set the month, year, hour, minutes and seconds digit in a similar fashion.
• The sub-item "OFF" will start flashing.

```
<TIME DATE SEARCH>      ③

 17-05-2001 21:25:40

 EXECUTE OFF
```

7. Turn the JOG dial to select "ON".

```
<TIME DATE SEARCH>        ③

 17-05-2001 21:25:40

 EXECUTE ON
 TURN THE SHUTTLE RING
 >> TO EXECUTE.
```

8. Turn the SHUTTLE ring to the right to execute.
 • **The time date search will start and pause the playback display at the specified time point to select the camera number (or the nearest point from the specified time).**

```
17-05-2001 21:25:40   C03
```
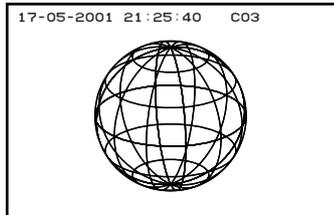
➡ Search results are displayed on a SPLIT 16 screen when "ALL" is selected in the SELECTION CAMERA NO. setting, and displayed on a single screen when an individual camera number is selected.

➡ To change the search image from SPLIT 16 screen to the single screen, select the camera number by pressing the Camera number button on the front of this unit. The selected image will be shown on the Single screen mode.

➡ If there is no recording or no data which is recorded on the <u>date</u> you have set, the time date search will not be activated and the date number will start flashing again.

9. To play back the searched image.
 • **Press either the PLAY button or the PAUSE button.**

INFORMATION Press the SEARCH button to clear the <TIME DATE SEARCH> menu.

10. Press the STOP button to stop playback and still frame mode.
 • **Press the SEARCH button, the display will revert to its original state.**

■ Copying the data from HDD to a copying device or an archive device

This unit can copy the data which is recorded on hard disk drive to an archive device media or a copying device media. The following explains how to copy the data manually.

➡ Make sure that the peripheral recording device is connected and set correctly before you start copying.

1. Turn on the power of the peripheral recording device connected to the unit.

2. Turn on the power of the digital unit.

3. Insert media to archive device Glossary or a copying device Glossary .

4. Press the COPY button.
 • **The <COPY SELECTION> menu will appear.**

5. Make sure that the cursor (▶) is next to the COPY DIRECTION, and turn the SHUTTLE ring to the right.
 • **The sub-item will be different depending on the connected devices.**
 • **Use JOG dial to choose the desired device to copy to and turn the SHUTTLE ring to the right to enter the selection.**

```
<COPY SELECTION>
▶COPY DIRECTION HDD→COPY
 OVERWRITE            OFF
 TRANSFER PERIOD      MAN
 FROM:29-01-01 09:25:24
```
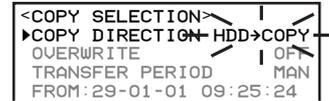
6. Turn the JOG dial to move the cursor to OVERWRITE and turn the SHUTTLE ring to the right.
 • **The default setting is "OFF". You have to select whether to overwrite previous recorded data (ON) or copying from the end of the recording exists on the media (OFF). Turn the JOG dial to make the desired setting to flash, then turn the SHUTTLE ring to the right to enter the selection.**

```
<COPY SELECTION>
 COPY DIRECTION HDD→COPY
▶OVERWRITE            OFF
 TRANSFER PERIOD      MAN
 FROM:29-01-01 09:25:24
```

```
<COPY SELECTION>
 COPY DIRECTION HDD→COPY
▶OVERWRITE             ON
 TRANSFER PERIOD      MAN
 FROM:29-01-01 09:25:24
```
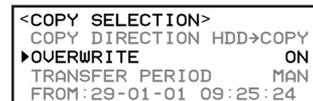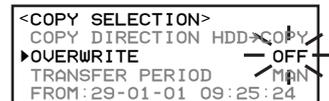
INFORMATION The following sub-items can be set for the overwrite copying:
• If you set to "ON", <u>the copy will start from the very beginning of the media.</u>
• If you set to "OFF", <u>the copy will start from the end of the last recorded part of the media.</u>

7. Set the TRANSFER PERIOD.
 • **Turn the JOG dial to move the cursor next to the "TRANSFER PERIOD" then turn the SHUTTLE ring to the right. The sub-item of "MAN" (manual) will start flashing.**

```
<COPY SELECTION>
 COPY DIRECTION HDD→COPY
 OVERWRITE            OFF
▶TRANSFER PERIOD      MAN
 FROM:29-01-01 09:25:24
```
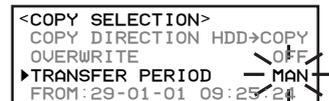
Other settings The following sub-item can be set for the "TRANSFER PERIOD" of copying.
By turning the JOG dial, the sub-item will be changed as below:

MAN ⟷ S/E

"MAN": Set the start time and end time of copying manually.

"S/E": Copy all data from the start to the end of the device which is recognized as a device to copy from.

8. Turn the JOG dial to move the cursor to the start time (FROM), and set the date, month, year, hour, minute and second of the data to copy from.
 • **Turn the JOG dial to set the start time.**
 • **Turn the SHUTTLE ring to the right to enter the selection.**

```
▶TRANSFER PERIOD      MAN
 FROM:29-01-01 09:25:24
   TO:29-01-01 09:25:24
 EXECUTE              OFF
```

9. Turn the JOG dial to move the cursor to the stop time (TO), and set the date, month, year, hour, minutes and second of the data to copy to.
   • **Turn the JOG dial to set the stop time.**
   • **Turn the SHUTTLE ring to the right to enter the selection.**

```
 TRANSFER PERIOD      MAN
 FROM:29-03-01 00:25:24
▶  TO:29-03-01 01:25:24
 EXECUTE              OFF
```

10. Set the cursor to EXECUTE and turn the SHUTTLE ring to the right.
   • **The sub-item "OFF" will start flashing.**

11. Turn the JOG dial to select "ON".

```
 TRANSFER PERIOD      MAN
 FROM:29-03-01 00:25:24
   TO:29-03-01 01:25:24
▶EXECUTE               ON
 TURN THE SHUTTLE RING
 >> TO EXECUTE.
```

12. Turn the SHUTTLE ring to the right to start copying.
   • **Press the WARNING RESET button to stop copying.**

INFORMATION You can copy the data even during recording.

♦ Language selection setting

With this unit, the menu screen display can be selected from five languages. As "ENGLISH" is selected for the initial setting, please perform setting according to the following procedure if you want to select a language other than "ENGLISH".

Example: Setting language selection to "DEUTSCH" (the default is "ENGLISH").

1. Press the SET UP button to display the <MENU SETTING> menu.

```
<MENU SETTING>
▶TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
 NORMAL REC SETTING
 A-REC/M-DET SETTING
 DATA CLEAR SELECTION
 COMMUNICATION SETTING
 REAR TERMINAL
 SERVICE
 INITIAL SET UP
```

2. Move the cursor next to INITIAL SET UP then turn the SHUTTLE ring to the right.
   • **The <INITIAL SET UP> menu appears.**

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL           STOP
 HDD PB REPEAT      STOP
 ARCHIVE OVERWRITE   OFF
 AUTO EJECT           ON
 ARCHIVE DATA        ALL

 MOTION DETECTION    OFF

 LANGUAGE SELECTION
```

3. Turn the JOG dial until the cursor is next to LANGUAGE SELECTION and turn the SHUTTLE ring to the right.
   • **The <LANGUAGE SELECTION> menu appears.**

```
<LANGUAGE SELECTION>
▶ENGLISH
 DEUTSCH
 FRANCAIS
 CASTELLANO
 SVENSKA
```

4. Move the cursor next to DEUTSCH then turn the SHUTTLE ring to the right.

```
<LANGUAGE SELECTION>
 ENGLISH
▶DEUTSCH
 FRANCAIS
 CASTELLANO
 SVENSKA
```

5. The display will return to the present time display.

Connections

■ **Connecting to CCTV camera, monitor, sensor, the electric power supply and ferrite core**

MONITOR

To S(Y/C) IN terminal

One of either codes should be connected.

CAMERA #1

Up to 16 cameras

To CAMERA IN 1 terminal

To VIDEO OUT or S(Y/C) OUT terminal

To ETHERNET Socket

To GND terminal

Ferrite core

SENSOR #1

To ALARM IN terminal corresponds to the CAMERA #.

for the Continent   for U.K

POWER CORD

Processing the connecting line

5~7mm

Connection on the ALARM IN side

Compatible power lines
Ø0.32 ~ Ø0.65 mm (AWG 28 ~ 22)

10~12mm   Connection on the I / O side

Compatible power lines
Ø0.4 ~ Ø1.2 mm (AWG 26 ~ 16)

Cut the designated area from the electric wire's outer covering (vinyl portion).

■ **Turning ON/OFF this Unit by peripheral source**

By using POWER ON/POWER OFF terminal on (I/O terminals) , it is possible to turn on/off this unit externally. This function is related to the output of DC 5V OUT terminal.

The relationship between POWER ON/POWER OFF terminal, DC 5V OUT terminal and turning on/off this unit is shown in the diagram. Please use suitable peripheral devices to connect with this unit.

Using POWER ON terminal

POWER ON terminal

ground

Unit's power

power on

power off

boot up

power on

shut down

DC 5V OUT
(4.5-5.5V Max.30mA)

DC 5V

0V

Using POWER OFF terminal

POWER OFF terminal

ground

Unit's power

power on

power off

shut down

DC 5V OUT
(4.5-5.5V Max.30mA)

DC 5V

0V
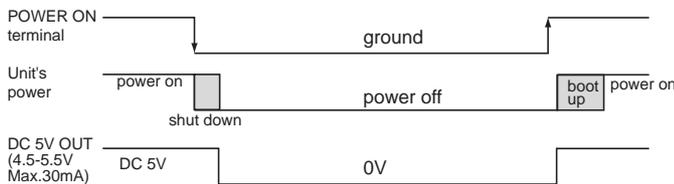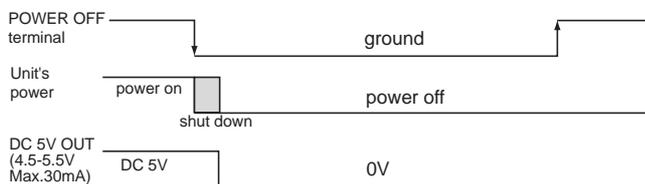
■ **Attaching the ferrite core**

To avoid interference from the cables connected to the unit against other apparatus, attach the ferrite core to all cables connected to the control terminal cables and ALARM IN terminals (GND terminals) as indicated and place it as close to the unit as possible. Use the ferrite core to bundle together all of the cables connected to each terminal.
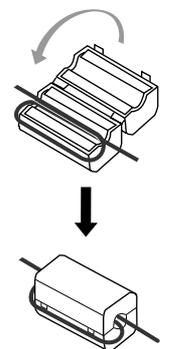
To the other apparatus

Tie cables at the band

■ Alarm Recording Connection

Example: When using the alarm switch corresponding to camera number 1.
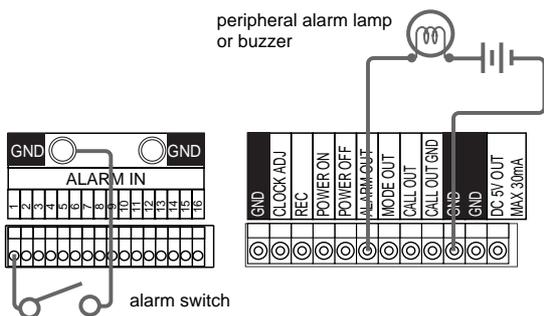
■ Connecting with peripheral recording devices

By connecting peripheral recording devices to the main unit through its SCSI interface (SCSI-II half-pitch 50-pin), storage space can be increased and archive and copying functions can be performed. Please consult with your retailer for information regarding which peripheral recording devices can be used.

➡ Make sure to turn off this Unit when connecting with peripheral recording devices.

♦ Peripheral devices to be connected

When the unit is connected to peripheral devices, its PLAY DEVICE button is used to SELECT the designated device. Response may be slow depending on the type of peripheral device used. In this case, the indicator light on the designating playback device will begin flashing; other operations cannot be performed when in this condition. Resume operation only after the playback device's indicator light illuminate. Please use the unit's EJECT button to eject the peripheral device media even if the peripheral device is equipped with its own eject button. When the peripheral device is being used as the playback device, all of the front panel buttons (PLAY, STOP, PAUSE, MULTIPLEXER functions and ZOOM) will function normal as they do when the MAIN HDD is being accessed.

♦ Usable cables

Connections between the unit and its peripherals are made using standard SCSI cables.

♦ Connection when using 1 peripheral recording device
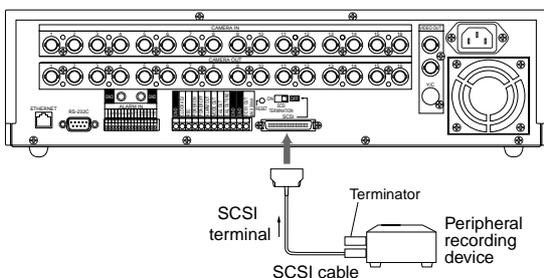
➡ When connecting a peripheral recording device, the SCSI TERMINATION switch must be set to OFF.

⚠ Warning concerning connections
A terminator is necessary to maintain proper electrical connections to the peripheral devices. Please make sure that the terminator is always attached to the last peripheral device. (Depending on the device, the terminator may be built into the device. In this case, please set the built-in terminator correctly.) Please use an active terminator for SCSI.

♦ Connection when using several peripheral recording devices
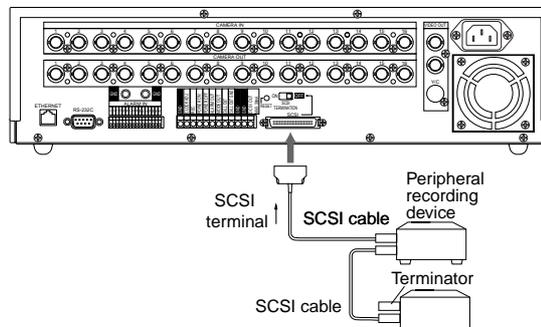
➡ When connecting a peripheral recording device, the SCSI TERMINATION switch must be set to OFF.

➡ Please set the SCSI ID number to suit the use/purpose of the peripheral recording device. Refer to the operation manual of each peripheral recording device for setting its SCSI ID Number.

SCSI ID Number	Connected device	Purpose	Notes
0	Built-in HDD	Recording	
1	HDD	HDD expansion/ HDD recording	Maximum recording capacity is 103GB per unit.
2	HDD		
3	HDD		
4	DDS/RDD	Archive	Will be recognized as an archive device.
5	DDS/RDD	Copy	Will be recognized as a copy device.

* RDD: Abbreviation of removable disk drive.
  Select a disk drive which can eject the recording medium.
* HDD: Abbreviation of hard disk drives.
  Please use those which include self-defect capabilities.
* DDS: Abbreviation of digital data storage.
  Select a recording medium which uses tape.
* When hard disk drives are connected to ID1, ID2, or ID3, the displayed estimates of recording time will include the expanded HDD. When storage capacity is expanded to its maximum, however, there will be instances where the times set for long recording intervals are not displayed correctly.

INFORMATION Please use the devices we have recommended for this unit's peripheral recording devices. Please consult with your dealer for details.

INFORMATION Storage capacity is indicated in gigabytes (GB). (1GB = 1000 x 1000 x 1000 bytes.)

➡ For details of functions of the archive device and the copy device, please refer to "Glossary" on page 83.

Initial settings

■ How to install an external hard disk drive

Example: Installing a 9GB hard disk drive to ID1.

➡ When the power of the unit is turned on , the unit will automatically detect peripheral recording devices connected to its SCSI terminal Glossary. The system must be initialized each time hard disks are added, connections are made or ID numbers are altered, etc. When additional hard disk drives are added to this unit, all data stored on all (internal and external HDD ONLY) will be erased. The reason is that this unit looks at all drives as one. Before adding external drives to this unit, if the information stored on the existing drives is needed, please Backup the information first before adding external drives. Data is not erased (lost) when an external HDD or other peripheral is removed from the chain.

With the digital units Power OFF, turn the Terminator switch on the back of the digital unit to OFF. Set the external drive to ID1, terminate at the external drive, connect the SCSI connector from the external drive to the SCSI connector of the digital unit and turn power "ON" on the external drive. Next Turn "ON" the power of the digital unit. When this unit comes-up, it will automatically detect all external connected devices and the DEVICE CHECK screen will be displayed. Notice that the external drive is recognized on ID1.

1. Press the POWER button.
   • If the change is recognized, the screen below will appear.

```
<DEVICE CHECK>
 SCSI ID0:HDD( 60GB)
       ID1:HDD(  9GB)
       ID2:NONE
       ID3:NONE
       ID4:NONE
       ID5:NONE
▶PWR-OFF     INITIALIZE
 BOOT UP DELAY        00
```

2. Make sure that the connected device is recognized correctly.
   • If the connected device is not displayed correctly, make sure that the cursor is set to POWER OFF and turn the SHUTTLE ring twice to the right. The power of this unit will be turned off. Make sure that the connection of the external device and the setting of the SCSI ID number is correct.

```
<DEVICE CHECK>
 SCSI ID0:HDD( 60GB)
       ID1:HDD(  9GB)
       ID2:NONE
       ID3:NONE
       ID4:NONE
       ID5:NONE
▶PWR-OFF     INITIALIZE
 BOOT UP DELAY        00
```

3. Turn the JOG dial to select INITIALIZE.

```
       ID5:NONE
 PWR-OFF     ▶INITIALIZE
 BOOT UP DELAY        00
```

4. Turn the SHUTTLE ring to the right.
   • Turn the SHUTTLE ring to the right to EXECUTE.

➡The unit will initialize its system when data is erased from its built-in hard disk and hard disks connected to ID0 through ID3. Data is not erased from hard disks connected to ID4 and ID5.

⚠ If the screen below appears after performing Step 1, it is possible that there is either a poor connection, overlapping SCSI ID numbers, or an error in SCSI ID number settings. In this case, turn the SHUTTLE ring twice in the clockwise direction. Main power to the unit will turn off; please then check the connection and SCSI ID settings of the external devices.

```
       ID4:RDD
       ID5:DDS
▶PWR-OFF
 BOOT UP DELAY        00
```

■ How to remove an external hard disk drive and copying device

Ensure all devices including this unit are turned OFF. Disconnect the the cable of the external drive and or copy device from the back of this unit SCSI terminal. Enable (turn to ON) the termination switch on the back of this unit.

1. Press the POWER button.
   • The screen below will appear. It will not appear when you remove the DDS or RDD which is connected to ID4 or ID 5.

```
       ID5:RDD
▶PWR-OFF     CONFIG.
 BOOT UP DELAY        00
```

2. Make sure that the connected device is recognized correctly.

3. Turn the JOG dial to select "CONFIG.", and turn the SHUTTLE ring to the right twice.

⚠ When CONFIG. is selected, the unit will save the data recorded on the connected peripheral recording device (which has not been removed) as well as the data recorded on the built-in HDD. Data recorded on a removed peripheral recording device is not affected.

4. The unit will start setting up.

■ Confirming the connected device

1. Press the INFO button.
   • The <INFORMATION> menu will appear.

2. Turn the JOG dial to select CONNECTED SCSI DEVICE.

```
<INFORMATION>
 RECORDED PERIOD
▶CONNECTED SCSI DEVICE
```

3. Turn the SHUTTLE ring to the right.
   • The <CONNECTED SCSI DEVICE> menu will appear.

```
<CONNECTED SCSI DEVICE>
 SCSI ID0:HDD( 60GB)
       ID1:NONE
       ID2:NONE
       ID3:NONE
       ID4:NONE
       ID5:NONE
```

➡ Connected device for ID4 and ID5 will display "NONE" when no archive or copying devices are connected to the unit.

■ Setting this unit to delay the boot up time

Because the unit searches for connected devices when power is turned on, peripheral devices must be turned on before power is turned on to the digital recorder. To handle peripherals which take a long time to start up, the unit can be preset to delay the timing of its search for these devices.

1. Press the POWER button while pressing the REC button to turn the power on.
   • The <DEVICE CHECK> menu will appear.

```
<DEVICE CHECK>
 SCSI ID0:HDD( 60GB)
      ID1:NONE
      ID2:NONE
      ID3:NONE
      ID4:NONE
      ID5:NONE
▶INITIALIZE ALL HDD
 BOOT UP DELAY      00
```

2. Turn the JOG dial to select BOOT UP DELAY, and turn the SHUTTLE ring to the right.
   • The sub-item of the BOOT UP DELAY will start flashing.

```
        ID5:RDD
 INITIALIZE ALL HDD
▶BOOT UP DELAY    00
```

3. Turn the JOG dial to set the delay time, and turn the SHUTTLE ring to the right to enter the selection.
   • You can set up to 99 seconds.

```
        ID5:RDD
 INITIALIZE ALL HDD
▶BOOT UP DELAY    10
```

➡ When BOOT UP DELAY is set and timer recording is performed, the unit will begin recording later than the time set as the recording time.

4. Press the POWER button.
   • The power of this unit will be turned off.

5. Press the POWER button again.
   • This unit will start setting up after the preset delayed time has passed.

➡ If a different peripheral recording device was connected from the last time the unit was booted up, the <DEVICE CHECK> menu will appear.

••• Initial settings

Menu functions

■ MENU SETTING

You can set the basic settings for this unit in the MENU SETTING. Refer to pages shown below for details.

➡ During playback, recording, pre-alarm recording stand-by mode and accessing peripheral recording device, you cannot change setting of some MENUs.

SUB MENU (1)

```
<TIME DATE DISPLAY>
▶DISPLAY MODE           1
 CHARACTER SIZE     SMALL
 CLOCK LOCATION       OFF


EX.<MODE 1>
        01-01-2000 00:00:00
```
♦ TIME DATE DISPLAY   page 25

SUB MENU (2)

```
<SPLIT4 SCREEN SETTING>
▶SPLIT4a      SPLIT4b

   ① ②          ⑤ ⑥
   ③ ④          ⑦ ⑧

  SPLIT4c      SPLIT4d

   ⑨ ⑩          ⑬ ⑭
   ⑪ ⑫          ⑮ ⑯
```
♦ SPLIT4 SCREEN SETTING page 43

```
<MPX DISPLAY>
▶SCREEN SW PATTERN    ALL
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY          HIGH
 SEQUENCE
 CH.TITLE           CH.NO
 CAMERA TITLE
 ALARM DISPLAY         ON
```
♦ MPX DISPLAY page 43-46

MAIN MENU

SET UP

```
<MENU SETTING>
▶TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
 NORMAL REC SETTING
 A-REC/M -DET SETTING
 DATA CLEAR SELECTION
 COMMUNICATION SETTING
 REAR TERMINAL
 SERVICE
 INITIAL SET UP
```

```
<SPLIT9 SCREEN SETTING>
▶SPLIT9a      SPLIT9b

  ① ② ③        ① ② ⑩
  ④ ⑤ ⑥        ⑪ ⑫ ⑬
  ⑦ ⑧ ⑨        ⑭ ⑮ ⑯
```
♦ SPLIT9 SCREEN SETTING page 43, 44

```
<SPLIT16 SCREEN SETTING>
▶SPLIT16

  ① ② ③ ④
  ⑤ ⑥ ⑦ ⑧
  ⑨ ⑩ ⑪ ⑫
  ⑬ ⑭ ⑮ ⑯
```
♦ SPLIT16 SCREEN SETTING page 44

```
<SEQUENCE>
SEQ. 1  CH.▶ ①     TIME 1S
     2       ②          1S
     3       ③          1S
     4       ④          1S
     5       ⑤          1S
     6       ⑥          1S
     7       ⑦          1S
     8       ⑧          1S
     9       ⑨          1S
```
♦ SEQUENCE(1/2)   page 44,45

```
<SEQUENCE>
SEQ. 10  CH.▶ ⑩    TIME 1S
     11       ⑪         1S
     12       ⑫         1S
     13       ⑬         1S
     14       ⑭         1S
     15       ⑮         1S
     16       ⑯         1S
SPLIT4      a b c d      1S
SPLIT9      a b          1S
```
♦ SEQUENCE(2/2)   page 44,45

```
<CAMERA TITLE>
CH TITLE
▶①  . . . . . . . . . . . . . . . . .
 ②  . . . . . . . . . . . . . . . . .
 ③  . . . . . . . . . . . . . . . . .
 ④  . . . . . . . . . . . . . . . . .
 ⑤  . . . . . . . . . . . . . . . . .
 ⑥  . . . . . . . . . . . . . . . . .
 ⑦  . . . . . . . . . . . . . . . . .
 ⑧  . . . . . . . . . . . . . . . . .
```
♦ CAMERA TITLE(1/2) page 45,46

```
<CAMERA TITLE>
CH TITLE
▶⑨  . . . . . . . . . . . . . . . . .
 ⑩  . . . . . . . . . . . . . . . . .
 ⑪  . . . . . . . . . . . . . . . . .
 ⑫  . . . . . . . . . . . . . . . . .
 ⑬  . . . . . . . . . . . . . . . . .
 ⑭  . . . . . . . . . . . . . . . . .
 ⑮  . . . . . . . . . . . . . . . . .
 ⑯  . . . . . . . . . . . . . . . . .
```
♦ CAMERA TITLE(2/2) page 45,46

```
<TIMER PROGRAM>
▶SELECTED PATTERN       P1
 DEFINE   P1
 DEFINE   P2
 DEFINE   P3

<M-DET APPLICATION>
 REC MODE (A)         OFF
 REC MODE (B)         OFF
 REC MODE (C)         OFF
 REC MODE (POWER)     OFF
```
♦ TIMER PROGRAM   page 50-53
♦ M-DET APPLICATION   page 52,53

```
<TIMER PROGRAM>        P1
  DW  START  END   MODE
▶  --- --:-- --:-- ------
2  --- --:-- --:-- ------
3  --- --:-- --:-- ------
4  --- --:-- --:-- ------
5  --- --:-- --:-- ------
6  --- --:-- --:-- ------
7  --- --:-- --:-- ------
8  --- --:-- --:-- ------

  SPECIAL DW:SUN-SAT
```
♦ TIMER PROGRAM page 50

```
<NORMAL REC SETTING>
▶IMAGE QUALITY       HIGH
 MAX REC FIELDS     12.5F
 SELECT REC MODE      (A)
 DEFINE GROUP SETTING




<ESTD TIME>       1D12H49M
```
♦ NORMAL REC SETTING page 12-14

```
<DEFINE GROUP>         (A)
CH PRI FILD  CH PRI FILD
▶① 1  0.78   ⑨  1  0.78
 ② 1  0.78   ⑩  1  0.78
 ③ 1  0.78   ⑪  1  0.78
 ④ 1  0.78   ⑫  1  0.78
 ⑤ 1  0.78   ⑬  1  0.78
 ⑥ 1  0.78   ⑭  1  0.78
 ⑦ 1  0.78   ⑮  1  0.78
 ⑧ 1  0.78   ⑯  1  0.78
<ESTD TIME>       1D12H49M
```
♦ DEFINE GROUP page 14

SUB MENU (1)

```
<A-REC/M-DET SETTING>
▶IMAGE QUALITY        HIGH
 MAX REC FIELDS      12.5F
 DEFINE GROUP SETTING
 A-REC DURATIOM        15S
 RECORD ALARM          SEP
 PRE A-REC             OFF

 M-DET SETTING
```

♦ A-REC/M-DET SETTING

page 35-40

SUB MENU (2)

```
<DEFINE ALARM GROUP>
CH PRI FILD   CH PRI FILD
▶①  1        ⑨  1
 ②  1        ⑩  1
 ③  1        ⑪  1
 ④  1        ⑫  1
 ⑤  1        ⑬  1
 ⑥  1        ⑭  1
 ⑦  1        ⑮  1
 ⑧  1        ⑯  1
```

♦ DEFINE ALARM GROUP   page 36

SUB MENU (3)

MAIN MENU

```
<MENU SETTING>
 TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
 NORMAL REC SETTING
▶A-REC/M-DET SETTING
 DATA CLEAR SELECTION
 COMMUNICATION SETTING
 REAR TERMINAL
 SERVICE
 INITIAL SET UP
```

SET UP

```
<MOTION>
▶SELECTION CAMERA NO.    ①

 CH.MOTION DETECTION OFF
 SET DETECTION MASK
 SENSITIVITY          MED
 MOTION THRESHOLD       2
 TEST MODE            OFF
```

♦ MOTION   page 38

```
←→↑↓ :MOVE    <<: EXIT
```

♦ SET DETECTION MASK
page 39

```
<DATA CLEAR SELECTION>
▶COPY DATA CLEAR      OFF  — #1
 ARCHIVE DATA CLEAR   OFF  — #2
 HDD DATA CLEAR       OFF
```

♦ DATA CLEAR SELECTION
page 26

```
<RS-232C SETTING>
▶TRANSMISSION RATE   1200
 DATA BIT LENGTH     8BIT
 PARITY BIT          NONE
 STOP BIT LENGTH     1BIT
 DELIMITER             CR
```

♦ RS-232C SETTING   page 65

```
                  <<: EXIT
```

♦ TEST MODE   page 40

```
<COMMUNICATION SETTING>
▶RS-232C SETTING
 TCP/IP SETTING
```

♦ COMMUNICATION SETTING
page 65

```
<TCP/IP SETTING>



▶SELF IP ADDRESS
        192.168.001.100
 SUBNET MASK
        255.255.255.000
<MAC ADDRESS>
      08-00-70-2E-3F-FF
```

♦ TCP/IP SETTING   page 65

```
<REAR TERMINAL>
▶MODE OUT             REC
 CAPACITY REMAIN HDD-10%

 CALL OUT
 BUZZER              KEY
```

♦ REAR TERMINAL   page 26-28

```
<CALL OUT>
 HDD(ID:0~3)        FULL
▶ARCHIVE(ID:4)      NONE  — #2
```

♦ CALL OUT   page 27,28

```
<SERVICE>
▶POWER FAILURE
 ARCHIVE POINT RESET  OFF
 MENU INITIALIZE      OFF
 IM-CHECK MODE        OFF
```

♦ SERVICE   page 28, 29

```
<POWER FAILURE>
No.   DATE    TIME   INFO.
02  24-01-00 12:00 PW-LOS
01  23-01-00 20:00 PW-LOS
```

♦ POWER FAILURE   page 28

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF — #2
 AUTO EJECT            ON — #2
 ARCHIVE DATA         ALL — #2
 FIFO/OVERWRITE MODE  OFF — #3
 MOTION DETECTION     OFF

 LANGUAGE SELECTION
```

♦ INITIAL SET UP   page 30-33

```
<TIME DATE ADJUST>
▶DAYLIGHT SAVING      OUT
 DATE                  01
 MONTH                 01
 YEAR                2000
 TIME            00:00:00

 TURN THE SHUTTLE RING
 << TO EXECUTE.
```

♦ TIME DATE ADJUST   page 11

```
<LANGUAGE SELECTION>
▶ENGLISH
 DEUTSCH
 FRANCAIS
 CASTELLANO
 SVENSKA
```

♦ LANGUAGE SELECTION page 17

#1 : Only displayed when a copying device is connected to ID5.

#2 : Only displayed when an ARCHIVE device is connected to ID4.

#3 : Only displayed when the HDD is connected to ID4.

■ SEARCH SELECTION MENU

SUB MENU (1)

```
<TIME DATE SEARCH>      ALL

 06-09-2001 04:10:20

 EXECUTE ON
TURN THE SHUTTLE RING
>> TO EXECUTE.
```

♦ TIME DATE SEARCH   page 15,16

SUB MENU (2)

```
<TIME DATE SEARCH>
06-09-2001 04:10:20

       SEARCHING...
```

```
<INDEX SEARCH>         ALL

        01

INPUT INDEX NUMBER
TURN THE SHUTTLE RING
<< OR >> TO VIEW NEXT
ALARM.
```

♦ INDEX SEARCH   page 57, 58

```
<INDEX SEARCH>01

       SEARCHING...
```

MAIN MENU

```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.  ALL
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH

 JUMP TO START POINT
```

SEARCH

```
<SKIP SEARCH>          ALL

TURN THE SHUTTLE RING
<< OR >> TO
PREVIEW EACH ALARM.
```

♦ SKIP SEARCH   page 58

```
<SKIP SEARCH>

       SEARCHING...
```

```
<ALARM LIST SEARCH>
▶No.    DATE      TIME    C
 0001 13-12-01 19:11:00   ①
```

♦ ALARM LIST SEARCH
page 58, 59

```
<ALARM LIST SEARCH>
13-12-01 19:11:00

       SEARCHING...
```

```
<JUMP TO START POINT>

TURN THE SHUTTLE RING
>> TO PLAY BACK
OLDEST RECORDED DATA.
```

♦ JUMP TO START POINT page 59

■ COPY SELECTION MENU

COPY

MAIN MENU

```
<COPY SELECTION>
▶COPY DIRECTION HDD→COPY
 OVERWRITE         OFF
 TRANSFER PERIOD   MAN
 FROM:29-01-01 00:25:24
   TO:28-02-01 13:25:29
 EXECUTE           OFF
```

♦ COPY DIRECTION   page 59,60
♦ OVERWRITE   page 59,60
♦ TRANSFER PERIOD   page 60,61

SUB MENU(1)

```
<COPY SELECTION>
 COPY DIRECTION HDD→COPY
 OVERWRITE         OFF
▶TRANSFER PERIOD   S/E
 FROM:29-01-01 00:25:24
   TO:28-02-01 13:25:29
 EXECUTE           OFF

GET S/E INFORMATION.
TURN THE SHUTTLE RING
>>TO EXECUTE.
```

■ INFORMATION MENU

INFO

MAIN MENU

```
<INFORMATION>
▶RECORDED PERIOD
 CONNECTED SCSI DEVICE


<ELAPSED TIME>
 MAIN              OH
 ARCHIVE           OH   #2
 COPY              OH   #1
```

♦ INFORMATION   page 33
♦ ELAPSED TIME   page 33

SUB MENU (1)

```
<RECORDED PERIOD>
 MAIN DEVICE:
  FROM 05-03-00 12:00:00
    TO 14-03-00 12:30:00
 ARCHIVE DEVICE:            #2
  FROM **-**-** **:**:**
    TO **-**-** **:**:**
 COPY DEVICE:               #1
  FROM FF-FF-FF FF:FF:FF
    TO FF-FF-FF FF:FF:FF
```

♦ RECORDED PERIOD page 33

```
<CONNECTED SCSI DEVICE>
 SCSI ID0:HDD( 60GB)
      ID1:NONE
      ID2:NONE
      ID3:NONE
      ID4:DDS              #2
      ID5:RDD              #1
```

♦ CONNECTED SCSI DEVICE
page 33

#1 : Only displayed when a copying device is connected to ID5.

#2 : Only displayed when an ARCHIVE device is connected to ID4.
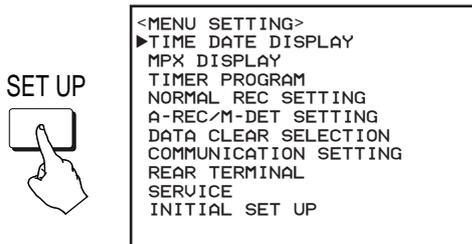
■ How to display menus

As shown in the menu displayed on pages 22 - 24, the menus are divided into several layers. The following steps show how to display the desired menu on the screen.

➡ When any of the menu displays are shown on the screen, the SPLIT/SEQUENCE button, the Camera number button and the ZOOM button do not work.
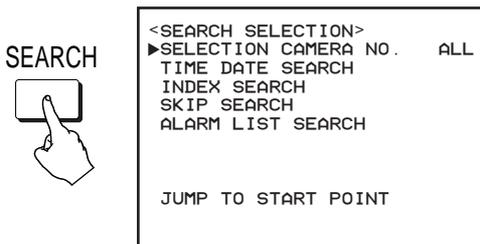
1. Find the menu you want to view from the menu overview on pages 22 - 24 and press the correct key to activate the menu.

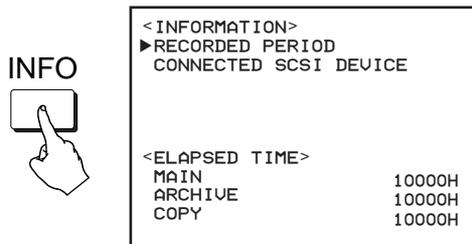2. When the menu you want to view is active:
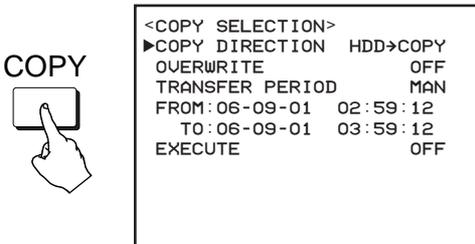 **• The <MENU SETTING> menu, press the SET UP button on the front panel of this unit.**

SET UP
```
<MENU SETTING>
▶TIME DATE DISPLAY
 MPX DISPLAY
 TIMER PROGRAM
 NORMAL REC SETTING
 A-REC/M-DET SETTING
 DATA CLEAR SELECTION
 COMMUNICATION SETTING
 REAR TERMINAL
 SERVICE
 INITIAL SET UP
```

  • The <SEARCH SELECTION> menu, press the SEARCH button on the front panel of this unit.

SEARCH
```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.   ALL
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```

  • The <INFORMATION> menu, press the INFO button on the front panel of this unit.

INFO
```
<INFORMATION>
▶RECORDED PERIOD
 CONNECTED SCSI DEVICE



<ELAPSED TIME>
MAIN              10000H
ARCHIVE           10000H
COPY              10000H
```

  • The <COPY SELECTION> menu, press the COPY button on the front panel of this unit.

COPY
```
<COPY SELECTION>
▶COPY DIRECTION   HDD→COPY
 OVERWRITE            OFF
 TRANSFER PERIOD      MAN
 FROM:06-09-01  02:59:12
   TO:06-09-01  03:59:12
 EXECUTE              OFF
```

Then, the main menu of each category will be shown on the screen.

3. Turn the JOG dial until the cursor (▶) is next to the desired item and turn the SHUTTLE ring to the right to show its setting.
  • Please refer to the relevant section of this manual for the detailed setting of each menu.

■ Setting Display Mode

Type and setting of display.

Display Mode	Display	Sample
1	Date, Present time,Camera number display	09-06-2001 11:39:10 C01
2	Date, Day of the week, Present time, Recording interval, Camera number display	09-06-2001 SAT 11:39:10 25F C01
3	Date, Day of the week, Present time, Recording interval, Camera number display, Recording capacity of HDD will be displayed.	09-06-2001 SAT 11:39:10 25F 99% C01
4	No indication (When alarm signal is input, Date, Day of the week, Present time, Recording interval will be displayed.)	
5	No indication (When warning signal is input, warining indicator will be displayed.)	
6	No indication	

Display mode 2 to 5 are only available when single screen is displayed or "CH. TITLE" is set to "NONE" on the <MPX DISPLAY> menu.

Example: Selecting DISPLAY MODE to "3" (the default setting is "1").
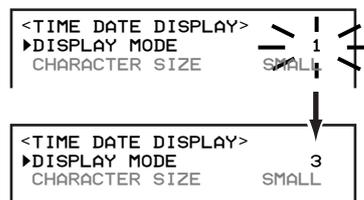
1. Display the <MENU SETTING> menu on the screen. Check the cursor is next to TIME DATE DISPLAY and turn the SHUTTLE ring to the right.
  • The <TIME DATE DISPLAY> menu appears.

2. Check that the cursor is next to "DISPLAY MODE" and turn the SHUTTLE ring to the right.
  • The sub-item will start flashing.

3. Turn the JOG dial until "3" flashes and turn the SHUTTLE ring to the right.

```
<TIME DATE DISPLAY>
▶DISPLAY MODE          1
 CHARACTER SIZE     SMALL
```
↓
```
<TIME DATE DISPLAY>
▶DISPLAY MODE          3
 CHARACTER SIZE     SMALL
```

4. Turn the SHUTTLE ring to the left or press the SET UP button, to exit.

♦ Setting character size
Refer to page 10 "Basic Operations" for the setting of character size.

♦ Setting Display Position
1. Repeat steps 1 to 2 of display mode to display the <TIME DATE DISPLAY > menu.

2. Turn the JOG dial until the cursor is next to "CLOCK LOCATION" and turn the SHUTTLE ring to the right.
  • The sub-item will start flashing.

3. Check that the "ON" is flashing. Turn the SHUTTLE ring to the right.
  • The monitor display switches to the display position setting menu.

```
<TIME DATE DISPLAY>
 DISPLAY MODE          3
 CHARACTER SIZE     SMALL
▶CLOCK LOCATION        ON
```

4. Turn the JOG dial until the present time display moves to the desired position.
  • **The present time display moves to the right when turning the JOG dial to the right. When the time display reaches the right edge of the screen, it goes down to the next line.**
  • **The time display moves to the left when turning the JOG dial to the left. When the time display reaches the left edge of the screen, it goes up to the next line.**

1)

Turn the JOG dial to the right to move the display to the right.

2)

By continuing to turn the JOG dial, the screen will scroll to its rightmost border.

3)
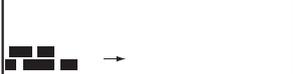
After the screen has been moved to its rightmost border, it will move down one level.

5. When the time display reaches the desired position, turn the SHUTTLE ring to the right.

➡ The display position can be changed when the setting of "CH. TITLE" in the <MPX DISPLAY> menu is as follows:
• When set to "NONE", the display position can be changed on single-screen, SPLIT 4, SPLIT 9 and SPLIT 16 screen.
• When set to "CH.NO" the display position can be changed on single screen only.

If "TITLE" is selected, the display position cannot be changed.

■ Setting Multiplexer functions
Refer to page 41, "Multiplexer functions" for details.

■ Setting Timer program
Refer to page 50, "Setting the Timer" for details.

■ Setting recording functions
Refer to page 35, "Various recording settings" for details.

■ Data Clear Selection
This unit provides a menu to select the device and its data to erase.

➡ "WARNING – This function will erase all the data on the selected device. In case of the hard disk drive, all data on all internal and external HDD will be erased" To edit this procedure press the SET UP key.

Example: Clearing the data recorded on main HDD.

1. Display the <MENU SETTING> menu and turn the JOG dial until the cursor(▶) is next to "DATA CLEAR SELECTION".

```
  A-REC/M-DET SETTING
▶DATA CLEAR SELECTION
  COMMUNICATION SETTING
```

2. Turn the SHUTTLE ring to the right to show the <DATA CLEAR SELECTION> menu.

```
<DATA CLEAR SELECTION>
 COPY DATA CLEAR     OFF
 ARCHIVE DATA CLEAR OFF
▶HDD DATA CLEAR      OFF
```

➡ By turning JOG dial, to select the medium of the data clear.

3. Turn the JOG dial until the cursor is next to "HDD DATA CLEAR" and turn the SHUTTLE ring to the right.
  • **The "OFF" flashing and the message, "ALL DATA AND ALL DRIVE DATA WILL BE ERASED." appears on the screen.**

```
<DATA CLEAR SELECTION>
 COPY DATA CLEAR     OFF
 ARCHIVE DATA CLEAR OFF
▶HDD DATA CLEAR      OFF


 ALL DATA AND ALL DRIVE
 DATA WILL BE ERASED.
```

4. Turn the JOG dial until "ON" flashes.
  • **The message, "TURN THE SHUTTLE RING >> TO EXECUTE." appears on the screen.**

➡ "COPY DATA CLEAR" or "ARCHIVE DATA CLEAR" appears on the screen when copy device or archive device is connected.

5. Turn the SHUTTLE ring to the right to clear the data.
  • **If not needed, turn the JOG dial until "OFF" flashes and turn the SHUTTLE ring to the right.**

➡ Please note that you cannot exit from the menu when clearing the data and "ON" is flashing on the screen.

6. Turn the SHUTTLE ring to the left or press the SET UP button.

■ Rear Terminal Setting (MODE OUT setting)
A signal is output sending the status of this unit.

Example: Setting MODE OUT to "PLAY" (the default setting is "REC").

1. Display the <MENU SETTING> menu and turn the JOG dial until the cursor is next to "REAR TERMINAL".

```
 DATA CLEAR SELECTION
 COMMUNICATION SETTING
▶REAR TERMINAL
 SERVICE
```

2. Turn the SHUTTLE ring to the right to show the <REAR TERMINAL> menu.

```
<REAR TERMINAL>
▶MODE OUT          REC
 CAPACITY REMAIN HDD-10%
```

3. Check the cursor is next to "MODE OUT", then turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

```
<REAR TERMINAL>
▶MODE OUT          REC
 CAPACITY REMAIN HDD-10%
```

4. Turn the JOG dial until "PLAY" flashes and turn the SHUTTLE ring to the right.
  • **The sub-item stops flashing.**

```
<REAR TERMINAL>
▶MODE OUT          PLAY
 CAPACITY REMAIN HDD-10%
```

Other settings By turning the JOG dial, the item of MODE OUT shown on the screen switches as shown below:

REC ⟷ PLAY ⟷ POWER ⟷ REMAIN

"REC": The signal is output during recording.

"PLAY": The signal is output during playback.

"POWER": The signal is output when the unit's power switch is on.

"REMAIN": The signal is output when the remaining storage capacity of main HDD, archive device reaches the rate which is set in CAPACITY REMAIN.

5. Turn the SHUTTLE ring to the left or press the SET UP button.
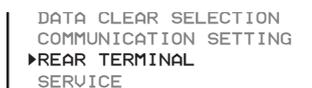
♦ Capacity remain setting

When MODE OUT is set to "REMAIN" and the remaining storage capacity of main HDD or archive device is running out, this unit gives a warning. The following shows how to set the device and its remaining capacity ratio to give warning.

➡ When the remaining storage capacity reaches the assigned % remain during recording:
• The display of the recorded storage capacity flashes when "DISPLAY MODE 3" is selected.
• The buzzer sounds when BUZZER in the <REAR TERMINAL> menu is set to "REMAIN".

Example: Setting CAPACITY REMAIN to "HDD-50%" (the default setting is "HDD-10%").

1. Display the <MENU SETTING> menu and turn the JOG dial until the cursor is next to "REAR TERMINAL".

```
  DATA CLEAR SELECTION
  COMMUNICATION SETTING
▶REAR TERMINAL
  SERVICE
```

2. Turn the SHUTTLE ring to the right to show the <REAR TERMINAL> menu.

3. Turn the JOG dial until the cursor is next to "CAPACITY REMAIN" and turn the SHUTTLE ring to flash the sub-item.
• **The sub-item of the device will start flashing first. Choose the device you want to set by using the JOG dial and SHUTTLE ring. Then sub-item of the remain will start flashing.**

```
<REAR TERMINAL>
  MODE OUT           PLAY
▶CAPACITY REMAIN HDD-10%
```

4. Turn the SHUTTLE ring and JOG dial to show "HDD-50%" and turn the SHUTTLE ring to the right to complete setting.

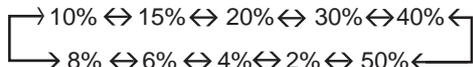Other settings By turning the JOG dial, the sub-item of CAPACITY REMAIN shown on the menu will be changed as follows:

→ HDD ↔ ARC ↔ NONE ←

Other settings By turning the JOG dial, the sub-item of CAPACITY REMAIN shown on the menu will be changed as follows:

→ 10% ↔ 15% ↔ 20% ↔ 30% ↔ 40% ←
→ 8% ↔ 6% ↔ 4% ↔ 2% ↔ 50% ←

5. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ CALL OUT setting

With this setting, the signal from CALL OUT terminal is emitted externally to indicate a warning. The signal is emitted from the CALL OUT terminal when the remaining storage capacity reaches the preset amount. Likewise, the remaining storage capacity of archive medium can be set. The CALL OUT signal is also emitted when HDD FULL in the <INITIAL SET UP> menu is set to "STOP". In addition, while the CALL OUT signal is not included in these settings, there is a setting for CALL OUT output when a problem occurs.

INFORMATION For more on the relation between Warning Display and CALL OUT terminal, please refer to page 84. When the emission parameter in CALL OUT is set to "Fixed", the warning display will appear unconditionally; when the parameter is set to "Selectable", the unit can be made to emit a CALL OUT signal through additional settings. For example, when the BUZZER setting on the <REAR TERMINAL> menu is set to "WRNG", the unit will sound a buzzer when the remaining amount on the hard disk has reached the figure specified on the <CALL OUT> menu.

Example: Setting CALL OUT of main HDD to "10%" (the default setting is "FULL") and CALL OUT of archive medium to "20%" (the default is "NONE").
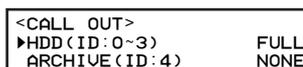
1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to REAR TERMINAL then turn the SHUTTLE ring to the right.
• **The <REAR TERMINAL> menu will appear.**

```
<REAR TERMINAL>
▶MODE OUT          REMAIN
  CAPACITY REMAIN HDD-10%

  CALL OUT
```

3. Turn the JOG dial until the cursor is next to "CALL OUT" and turn the SHUTTLE ring to the right to show the <CALL OUT> menu.

```
<CALL OUT>
▶HDD(ID:0~3)         FULL
  ARCHIVE(ID:4)       NONE
```

4. Confirm that the cursor is next to "HDD" and turn the SHUTTLE ring to the right to flash the sub-item.

```
<CALL OUT>
▶HDD(ID:0~3)         FULL
  ARCHIVE(ID:4)       NONE
```

5. Turn the JOG dial to flash "10%" and turn the SHUTTLE ring to the right to complete setting.

```
<CALL OUT>
▶HDD(ID:0~3)          10%
  ARCHIVE(ID:4)       NONE
```

Other settings By turning the JOG dial, the item of CALL OUT shown on the screen switches as shown below:

→ FULL ↔ 2% ↔ 4% ↔ 6% ↔ 8% ↔ 10% ←
→ NONE ↔ 50% ↔ 40% ↔ 30% ↔ 20% ↔ 15% ←
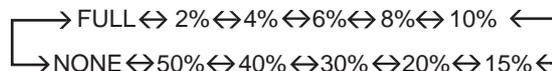
"NONE": No signal is emitted from the CALL OUT terminal.

Operations

6. Turn the JOG dial until the cursor is next to "ARCHIVE" and turn the SHUTTLE ring to the right.
 • **The sub-item will start flashing.**

```
<CALL OUT>
 HDD(ID:O~3)        FULL
▶ARCHIVE(ID:4)      NONE
```

7. Turn the JOG dial to flash "20%" and turn the SHUTTLE ring to the right.
 • **The sub-item stops flashing.**

```
<CALL OUT>
 HDD(ID:O~3)        10%
▶ARCHIVE(ID:4)      20%
```

8. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ Buzzer setting
You can set to sound a buzzer warning when the remaining storage capacity of the Hard Disk Drive reaches the amount set in CAPACITY REMAIN setting on the <REAR TERMINAL> menu. In addition to the above setting of CALL OUT setting section, it is also possible to sound the buzzer when other errors occur.

To sound the buzzer when the remaining storage capacity reaches the preset amount.

   1) Select "REMAIN" of BUZZER in the <REAR TERMINAL > menu.

   2) Set the device and its remaining storage capacity of CAPACITY REMAIN in the <REAR TERMINAL> menu.

Example: Setting BUZZER to "REMAIN" (the default setting is "KEY").

1. Display the <MENU SETTING> menu and turn the JOG dial until the cursor is next to REAR TERMINAL. Then turn the SHUTTLE ring to the right.
 • **The <REAR TERMINAL> menu appears.**

```
<REAR TERMINAL>
▶MODE OUT          REMAIN
 CAPACITY REMAIN HDD-1O%

 CALL OUT
```

2. Turn the JOG dial until the cursor is next to BUZZER and turn the SHUTTLE ring to the right to flash the sub-item.

```
 CALL OUT
▶BUZZER             KEY
```

3. Turn the JOG dial to show "REMAIN" and turn the SHUTTLE ring to the right to complete setting.
 • **The sub-item stops flashing.**

```
 CALL OUT
▶BUZZER           REMAIN
```

   ➡ By turning the JOG dial, the item of BUZZER shown on the screen switches as shown below.

   KEY ↔ WRNG ↔ REMAIN ↔ OFF

   "KEY": The buzzer sounds when any button is pressed, or JOG dial or SHUTTLE ring is turned.

   "WRNG": The buzzer sounds when a warning occurs. Refer to page 84, "Warnings and CALL OUT output", for details.

   "REMAIN": The buzzer sounds when the remaining storage capacity of main HDD and ARCHIVE reaches the preset amount selected in CAPACITY REMAIN. Press WARNING RESET button to stop the buzzer.

   "OFF": The buzzer does not sound.

4. Turn the SHUTTLE ring to the left or press the SET UP button.

■ Service menu setting
In the <SERVICE> menu, you can see the power failure time, reset the Archive Pointer, initialize menus and IM-CHECK mode.

♦ Power Failure list
The list of times when the power failure occurred is available.

Example: Displaying POWER FAILURE list.

   ➡ Up to 50 power failure start times are shown on the list. If more than 50 times, the last 50 start times are shown.

1. Display the <MENU SETTING > menu and turn the JOG dial until the cursor is next to SERVICE. Turn the SHUTTLE ring to the right.
 • **The <SERVICE> menu appears.**

```
<SERVICE>
▶POWER FAILURE
 ARCHIVE POINT RESET OFF
 MENU INITIALIZE     OFF
 IM-CHECK MODE       OFF
```

2. Check that the cursor is next to POWER FAILURE and turn the SHUTTLE ring to the right.

```
<POWER FAILURE>
NO. DATE     TIME   INFO.
O2 25-O1-O1 12:O2 PW-LOS
O1 23-O1-O1 12:35 PW-LOS
```

 • **The <POWER FAILURE> list appears on the screen.**
 • **The number of times, the date and the time when the power failure occurred are given on the list.**

   ➡ To reset the power failure start time, press the WARNING RESET button when the <POWER FAILURE> list is shown on the screen.

3. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ Resetting the Archive Pointer
This unit writes down an Archive Pointer [Glossary] indicating where the last archive stopped. In the next archive, it starts from the point where the Archive Pointer is last placed. If you want to reset this Archive Pointer, follow the steps shown below.

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Move the cursor next to SERVICE then turn the SHUTTLE ring to the right.
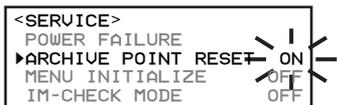 • **The <SERVICE> menu appears.**

```
<SERVICE>
▶POWER FAILURE
 ARCHIVE POINT RESET OFF
 MENU INITIALIZE     OFF
 IM-CHECK MODE       OFF
```

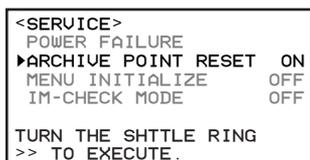*3. Turn the JOG dial until the cursor is next to ARCHIVE POINT RESET and turn the SHUTTLE ring to the right.*
  • **The sub-item will start flashing.**

4. Turn the JOG dial until "ON" flashes.

```
<SERVICE>
 POWER FAILURE
▶ARCHIVE POINT RESET  ON
 MENU INITIALIZE      OFF
 IM-CHECK MODE        OFF
```

5. When the message, "TURN THE SHUTTLE RING >> TO EXECUTE." is shown on the screen, turn the SHUTTLE ring to the right.
  • **The Archive Pointer is now reset.**
  • **If not executing, <u>turn the JOG dial until "OFF" is shown.</u>**

```
<SERVICE>
 POWER FAILURE
▶ARCHIVE POINT RESET  ON
 MENU INITIALIZE      OFF
 IM-CHECK MODE        OFF

TURN THE SHTTLE RING
>> TO EXECUTE.
```
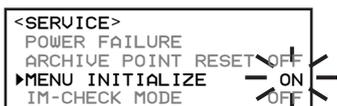
6. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ Initializing menus

Selecting "ON" of MENU INITIALIZE in the <SERVICE> menu initializes the setting ,except for the built-in HDD and the peripheral recording device.

Example: Setting MENU INITIALIZE to "ON" (the default is "OFF").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Move the cursor next to SERVICE then turn the SHUTTLE ring to the right.
  • **The <SERVICE> menu appears.**

3. Turn the JOG dial until the cursor is next to MENU INITIALIZE and turn the SHUTTLE ring to the left to show "ON".

```
<SERVICE>
 POWER FAILURE
 ARCHIVE POINT RESET  OFF
▶MENU INITIALIZE      ON
 IM-CHECK MODE        OFF
```

4. When "PUSH WARNING RESET KEY THEN ALL MENU WILL BE INITIALIZED." appears on the screen, press the WARNING RESET button.

```
<SERVICE>
 POWER FAILURE
 ARCHIVE POINT RESET  OFF
▶MENU INITIALIZE      ON
 IM-CHECK MODE        OFF

 PUSH WARNING RESET KEY
 THEN ALL MENU
 WILL BE INITIALIZED.
```
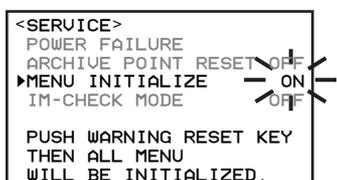
  • **<u>If not executing, change the sub-item to "OFF" and turn the SHUTTLE ring to the right.</u>**

5. SPLIT 16 screen will be shown on the monitor and all menus are initialized.

```
06-09-2000 12:12:05
 ①      ②      ③      ④

 ⑤      ⑥      ⑦      ⑧

 ⑨      10      11      12

 13      14      15      16
```

• **Please note that time date display, timer program setting, the title of all cameras set in CAMERA TITLE of the <MPX DISPLAY> menu are not initialized.**
• **The SELECTED PATTERN setting will be initialized to P1 of TIMER PROGRAM on the <MENU SETTING> menu. Please refer to the Menu displays on page 50.**

♦ IM-CHECK MODE setting

This function is designed to confirm whether alterations have been made to the data recorded by the unit.

Example: Setting IM-CHECK MODE to "ON" (the default is "OFF").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Move the cursor next to SERVICE then turn the SHUTTLE ring to the right.
  • **The <SERVICE> menu appears.**

3. Turn the JOG dial until the cursor is next to IM-CHECK MODE and turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

4. Turn the JOG dial until "ON" flashes.

```
<SERVICE>
 POWER FAILURE
 ARCHIVE POINT RESET OFF
 MENU INITIALIZE     OFF
▶IM-CHECK MODE       ON
```
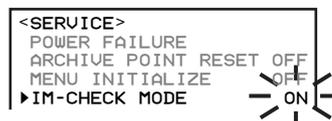
5. Turn the SHUTTLE ring to the left or press the SET UP button.

> **INFORMATION**

To distinguish alterations to recorded data:

• Use the PLAY DEVICE button to select the device that is to be inspected for alterations.
• Press the PLAY button to begin playback of recorded data.
• If an alteration is detected on part of the data during playback, " ■ " will appear to the right of the "A" (Alarm Recording number) in the Time Display. " ■ " indicates the CAMERA channel of the altered data.

```
28-10-2001 SUN A■
00:00:00 25F     50% C16



■WARNING: MODIFIED IMAGE
 (①②③④⑤⑥⑦⑧⑨⑩⑪⑫⑬⑭⑮⑯)
```
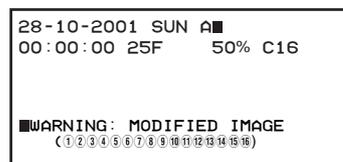
• The displayed " ■ " and the WARNING display can be cleared by pressing the WARNING RESET button.
• This function does not work with the communication function.

⮕ If you don't use this function, please select the sub-item "OFF".

■ Initial set up

In the <INITIAL SET UP> menu, it is possible to set several items such as the present day and time, a function of this unit when the storage capacity of HDD runs out and during playback.

♦ Clock setting

Refer to page 11, "Setting the present time" for details.

♦ HDD repeat recording

This function is used to set the function of this unit when the storage capacity of HDD is running out.

Example: Setting HDD FULL to "REC•STANDBY" (the default setting is "STOP").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor next to INITIAL SET UP and turn the SHUTTLE ring to the right.
  • **The <INITIAL SET UP> menu will appear.**

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL          STOP
 HDD PB REPEAT     STOP
 ARCHIVE OVERWRITE  OFF
```

3. Turn the JOG dial until the cursor is next to HDD FULL and turn the SHUTTLE ring to the right.
  • **The sub-item flashes.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL          STOP
 HDD PB REPEAT     STOP
 ARCHIVE OVERWRITE  OFF
```

4. Turn the JOG dial to show "REC•STANDBY" and turn the SHUTTLE ring to the right.
  • **The sub-item stops flashing.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL      REC•STANDBY
 HDD PB REPEAT     STOP
 ARCHIVE OVERWRITE  OFF
```

> Other settings   By turning the JOG dial, the sub-item of HDD FULL will be changed as follows:

"STOP": When the disk reaches its end during recording, the recording stops and "HDD FULL" is shown on the screen. To start recording again, press the WARNING RESET button to clear the warning message and press the REC button.

"REC•STANDBY": If the storage capacity of HDD runs out, the recording stops and the unit stays on the stand-by mode (power on). Then, once REC terminal is grounded or press the REC button, it starts recording again.

"REPEAT": When the disk reaches its end during recording, the recording starts again from the beginning of the disk.

"ALARM•PROT": If there is an alarm recording after finishing the ALARM•PROT setting, the action of this unit is the same as when set to "STOP". If there is no alarm recording during recording, this unit starts recording again from the beginning of the disk.

```
  ┌→ STOP ↔ REC•STANDBY ←┐
  └──→ ALARM•PROT ↔ REPEAT←┘
```

5. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ HDD repeat playback

It is a function which repeats playback of the recording on main HDD.

Example: Setting HDD PB REPEAT to "REPEAT" (the default is "STOP").

1. Display the <MENU SETTING> menu on the screen and turn the JOG dial until the cursor is next to INITIAL SET UP and turn the SHUTTLE ring to the right.
  • **The <INITIAL SET UP> menu appears.**

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL           STOP
 HDD PB REPEAT      STOP
 ARCHIVE OVERWRITE   OFF
 AUTO EJECT           ON
 ARCHIVE DATA        ALL

 MOTION DETECTION    OFF

 LANGUAGE SELECTION
```

2. Turn the JOG dial until the cursor is next to HDD PB REPEAT and turn the SHUTTLE ring to the right.
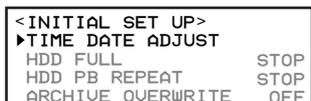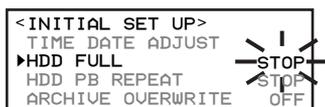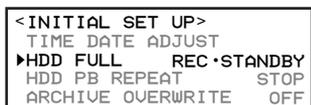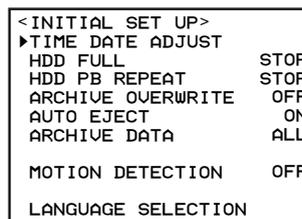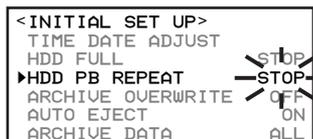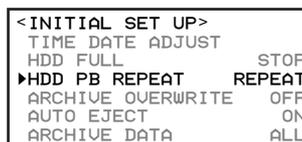 • **The sub-item will start flashing.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
 HDD FULL           STOP
▶HDD PB REPEAT      STOP
 ARCHIVE OVERWRITE   OFF
 AUTO EJECT           ON
 ARCHIVE DATA        ALL
```

3. Turn the JOG dial until "REPEAT" flashes and turn the SHUTTLE ring to the right.
  • **The sub-item stops flashing.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
 HDD FULL           STOP
▶HDD PB REPEAT    REPEAT
 ARCHIVE OVERWRITE   OFF
 AUTO EJECT           ON
 ARCHIVE DATA        ALL
```

▣ Another setting of HDD PB REPEAT:

"STOP": The unit stops playback at the end of HDD.

4. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ Archive medium overwrite setting

Setting whether to overwrite on archive medium when making a new archive can be selected on the menu.

Example: Setting ARCHIVE OVERWRITE to "ON" (the default setting is "OFF").

> ▣ When ARCHIVE OVERWRITE is set to "ON", all data on the archive medium will be erased. Make sure to confirm the content in the archive medium before starting to make the backup.

1. Display the <MENU SETTING> menu on the screen. Turn the JOG dial until the cursor is next to "INITIAL SET UP" and turn the SHUTTLE ring to the right.
  • **The <INITIAL SET UP> menu is shown on the screen.**

```
COMMUNICATION SETTING
REAR TERMINAL
SERVICE
▶INITIAL SET UP
```

2. Move the cursor to ARCHIVE OVERWRITE and turn the SHUTTLE ring to the right until the sub-item flashes.

```
<INITIAL SET UP>
 TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
▶ARCHIVE OVERWRITE    OFF
 AUTO EJECT           ON
 ARCHIVE DATA        ALL

 MOTION DETECTION    OFF

 LANGUAGE SELECTION
```

3. Turn the JOG dial until "ON" flashes and turn the SHUTTLE ring to the right.
   • **The sub-item stops flashing.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
▶ARCHIVE OVERWRITE    ON
```

➡️ The Archive Pointer Glossary is recorded when backup is either temporarily stopped or finished. Using this, the unit will begin the next backup at the end point of the previous backup.

4. Turn the SHUTTLE ring to the left or press the SET UP button.

```
<INITIAL SET UP>
 TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
▶ARCHIVE OVERWRITE    ON
 AUTO  EJECT          ON
```

♦ Auto-eject setting

This setting is for ejecting the medium of an archive device automatically. If you set to "ON" and make the back up timer program, the archive medium is ejected automatically at the end of the programmed time. If you set to "OFF", the archive medium will not be ejected.

Example: Setting AUTO EJECT to "OFF" (the default is "ON").

1. Display the <MENU SETTING> menu on the screen and turn the JOG dial until the cursor is next to INITIAL SET UP and turn the SHUTTLE ring to the right.
   • **The <INITIAL SET UP> menu appears.**

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT           ON
 ARCHIVE DATA        ALL
```

2. Turn the JOG dial until the cursor is next to AUTO EJECT and turn the SHUTTLE ring to the right.
   • **When the sub-item is flashing, turn the JOG dial until "OFF" starts flashing.**

```
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
▶AUTO EJECT          OFF
 ARCHIVE DATA        ALL
```

3. Check "OFF" is flashing and turn the SHUTTLE ring to the right.

```
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
▶AUTO EJECT          OFF
 ARCHIVE DATA        ALL
```

4. Turn the SHUTTLE ring to the left or press the SET UP button.

➡️ Archive medium is also ejected when the ARCHIVE button is pressed once again, after operation has been initiated with the ARCHIVE button. Refer to page 62, "Auto-eject at the completion of backup" for details.

♦ ARCHIVE DATA setting

When backing up records onto backup media, it is possible to select and back up only the "ALARM" part of the records by setting ARCHIVE DATA to "ALARM".

Example: Setting backup operation selection to "ALARM" (the default is "ALL").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Move the cursor to INITIAL SET UP and turn the SHUTTLE ring to the right.
   • **The <INITIAL SET UP> menu will be displayed.**

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT           ON
 ARCHIVE DATA        ALL

 MOTION DETECTION    OFF

 LANGUAGE SELECTION
```

3. Turn the JOG dial move the cursor to ARCHIVE DATA. Turn the SHUTTLE ring to the right.
   • **Turn the JOG dial to make the selection options flash.**

```
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT          OFF
▶ARCHIVE DATA        ALL
```

4. Turn the JOG dial to make the "ALARM" option flash. Turn the SHUTTLE ring to the right.
   • **The sub-item stops flashing.**

```
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT           ON
▶ARCHIVE DATA        ALARM
```

5. Turn the SHUTTLE ring to the left or press the SET UP button.

Other settings By turning the JOG dial, the sub-item of ARCHIVE DATA shown on the menu will be changed as follows:

"ALL": This backs up all the data recorded on the main HDD after the ARCHIVE POINTER. Alternatively, all data will be backed up.

"ALARM": Of all the data blocks recorded on the main HDD(1 MB units), this will back up only the data blocks that contain the alarm record. Some data either side of the alarm record may be included when backing up a small alarm record.

1). Backing up a data block containing the alarm record.
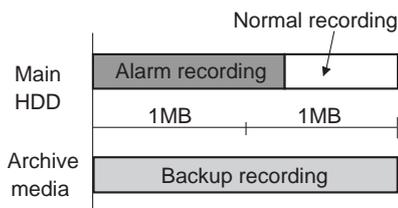
2). Backing up a small alarm record.
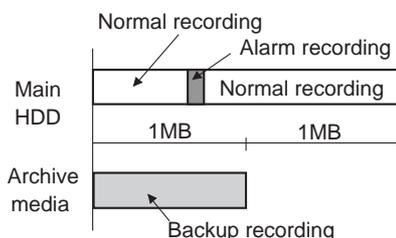
♦ FIFO/OVERWRITE MODE setting

This is the setting for repeated backup to the HDD connected to ID4. The setting item for this function is displayed in the menu only when an HDD is connected to ID4. When a power failure has occurred during a backup, the backup operation does not recover automatically. Press the ARCHIVE button to restart the backup. (At the time of timer reservation, backup restarts automatically after recovery from the power failure.) **At this time, all data backed up until the occurrence of the power failure will be lost, and the backup pointer also returns to the backup start point before the occurrence of the power failure. Please pay attention to this.**

➡ Before making the FIFO/OVERWRITE MODE setting, confirm that an HDD is connected correctly to ID4.

Example: Setting FIFO/OVERWRITE MODE to "ON" (the default is "OFF").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Move the cursor to INITIAL SET UP and turn the SHUTTLE ring to the right.
   • The <INITIAL SET UP> menu will be displayed.

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT            ON
 ARCHIVE DATA         ALL
 FIFO/OVERWRITE MODE  OFF
 MOTION DETECTION     OFF

 LANGUAGE SELECTION
```

3. Turn the JOG dial move the cursor to FIFO/OVERWRITE MODE. Turn the SHUTTLE ring to the right.
   • Turn the JOG dial to make the selection options flash.

```
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT           OFF
 ARCHIVE DATA         ALL
▶FIFO/OVERWRITE MODE  OFF
```

4. Turn the JOG dial to make the "ON" option flash. Turn the SHUTTLE ring to the right.
   • The sub-item stops flashing.

```
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT           OFF
 ARCHIVE DATA         ALL
▶FIFO/OVERWRITE MODE   ON
```

*5. Turn the SHUTTLE ring to the left or press the SET UP button.*

♦ Motion Detection setting

To use MOTION DETECTION, first turn the setting "ON" in the INITIAL SET UP menu.

➡ The <MOTION DETECTION> menu cannot be displayed when this setting is OFF. The sub menu of M-DET SETTING menu of A-REC/M-DET SETTING cannot be accessed when the MOTION DETECTION is set to OFF.

Example: Setting MOTION DETECTION to "ON" (the default is "OFF").

1. Display the <MENU SETTING> menu on the screen and turn the JOG dial to select the INITIAL SET UP ,and turn the SHUTTLE ring to the right.
   • The <INITIAL SET UP> menu appears.

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT            ON
 ARCHIVE DATA         ALL

 MOTION DETECTION     OFF

 LANGUAGE SELECTION
```

2. Turn the JOG dial to select the MOTION DETECTION and turn the SHUTTLE ring to the right.
   • The sub-item will start flashing.

```
<INITIAL SET UP>
 TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT            ON
 ARCHIVE DATA         ALL

▶MOTION DETECTION     OFF

 LANGUAGE SELECTION
```

3. Turn the JOG dial until ON flashes and turn the SHUTTLE ring to the right.
   • The sub-item stops flashing.

```
<INITIAL SET UP>
 TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
 AUTO EJECT            ON
 ARCHIVE DATA         ALL

▶MOTION DETECTION     ON

 LANGUAGE SELECTION
```

4. Turn the SHUTTLE ring to the left or press the SET UP button.

➡ Please set the MOTION DETECTION to "OFF" , when the function is not needed.

➡ When the MOTION DETECTION setting in the INITIAL SET UP menu is turned ON, the MAX REC FIELDS for each time setting will be automatically altered as follows. **These settings will not automatically revert to their former values even if MOTION DETECTION is turned OFF.**

Case of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu.
"25F" ➔ "12.5F", "8.33F" ➔ "6.25F" , "5F" ➔ "4.17F"

Case of "MODE" in the <TIMER PROGRAM> menu.
"25" ➔ "12.5", "8.33" ➔ "6.25" , "5" ➔ "4.17"

➡ When the MOTION DETECTION setting in the <INITIAL SET UP> menu is turned ON, "A-REC DU-RATION" setting in the <A-REC/M-DET SETTING> menu can not select to "MAN". Prior setting of "MAN" will automatically be changed to "2S". **When the MOTION DETECTION setting is subsequently set to "OFF", this setting will not revert to the former values ; they will remain "2S".**

■ The <INFORMATION> menu

This unit has functions which allow you to check information such as the recorded period and SCSI ID number of the main HDD and peripheral devices.

♦ Showing the recorded period

The recorded period of the main HDD, the archive device and the copying device is shown on the screen.

1. Press the INFO button.
   • **The <INFORMATION> menu appears.**

2. Check that the cursor is next to RECORDED PERIOD and turn the SHUTTLE ring to the right.

3. The message, "GET S/E INFORMATION. TURN THE SHUTTLE RING >> TO EXECUTE." is shown on the screen and then turn the SHUTTLE ring to the right.
   • **The <RECORDED PERIOD> menu is shown.**

```
<RECORDED PERIOD>
 MAIN DEVICE:
  FROM 05-03-01 06:19:56
    TO 15-03-01 09:02:52
 ARCHIVE DEVICE:
  FROM 05-03-01 06:19:56
    TO 15-03-01 09:02:52
 COPY DEVICE:
  FROM 05-03-01 06:19:56
    TO 15-03-01 09:02:52
```

4. Turn the SHUTTLE ring to the left or press the INFO button.

♦ Connected SCSI device

The SCSI ID number of connected devices can be confirmed on the screen.

1. Press the INFO button.
   • **The <INFORMATION> menu appears.**

2. Turn the JOG dial until the cursor is next to "CONNECTED SCSI DEVICE" and turn the SHUTTLE ring to the right.
   • **SCSI ID numbers are shown on the screen.**

```
<CONNECTED SCSI DEVICE>
 SCSI IDO:HDD( 60GB)
      ID1:HDD(  9GB)
      ID2:NONE
      ID3:NONE
      ID4:DDS
      ID5:NONE
```

3. Turn the SHUTTLE ring to the left or press the INFO button.

■ Elapsed time display

The elapsed time of main HDD, archive device and copy device are shown on the screen. ELAPSED TIME for AR-CHIVE or COPY will not be displayed unless an ARCHIVE device or COPY device has been connected to the unit.

➡ The elapsed time of main HDD is counted while the unit's power is turned on.

The elapsed time of the peripheral device (ID4) is counted as shown below:

1) While the ARCHIVE button illuminates or flashes.

```
<ELAPSED TIME>
 MAIN            1500H
 ARCHIVE          200H
 COPY             120H
```

2) While the PLAY or REV PLAY button illuminates or flashes when the archive device is selected as a playback device using the PLAY DEVICE button. Refer to page 15, "Basic playback" for details.

3) While the COPY indicator illuminates or flashes when restoring the data from archive device to main HDD.

➡ The elapsed time of the peripheral device (ID5) is counted as shown below.

1) While the PLAY or REV PLAY button illuminates or flashes when the copying device is selected as a playback device using the PLAY DEVICE button. Refer to page 15, "Basic playback" for details.

2) While the COPY indicator illuminates or flashes when copying the data from main HDD to the copy ing device.

3) While the COPY indicator illuminates or flashes when restoring the data from the copying device to main HDD .

1. Press the INFO button.
   • **The elapsed time is shown on the lower part of the screen.**

2. After confirming the elapsed time, turn the SHUTTLE ring to the left.
   • **To exit the menu, press the INFO button again.**
   • **The elapsed time of archive device or copying device will not be reset even though those devices are disconnected.**

   • **The elapsed time of archive device includes the time when the ARCHIVE button is pressed (when pressed, the ARCHIVE button illuminates) even in the case where there is no data on the main HDD such as an alarm stand-by mode.**

   • **The elapsed time shown on this menu may not be consistent with the regulation guaranteed period of the stock of wearing parts subject to wear or the guaranteed life span.**

   INFORMATION   The elapsed time is shown up to 999999 hours at the maximum.

■ Quick setting

Complex menu settings, made in response to various uses, can be saved on RDD media connected to the unit through ID5. These settings can also be read by the unit from the RDD when needed.

➡ One set of menu settings can be saved per one unit of RDD media. As menu settings are overwritten each time the same unit of RDD media is used to save this information, only the most recently saved set of menu settings is left stored on the medium. Furthermore, menu settings are also overwritten when the unit reads them from the RDD.

♦ RDD ➜ MENU DATA LOADING setting

Example: The unit reads menu settings stored on the RDD medium.

1. Press the POWER button while pressing the ARCHIVE button to turn the power on.
  • **The <QUICK SETTING> menu will appear.**

```
<QUICK SETTING>
▶RDD→MENU DATA LOADING
 MENU DATA SAVING→RDD
 POWER OFF
```

➡ POWER OFF is displayed if a peripheral device is not connected to ID5.

➡ When settings are being made, the POWER button blinks and the unit does not accept any other commands.

2. Make sure that the cursor (▶) is set to the "RDD➜MENU DATA LOADING", and turn the SHUTTLE ring to the right.
  • **When "TURN THE SHUTTLE RING >> TO EXECUTE." appears on the screen.**

```
<QUICK SETTING>
▶RDD→MENU DATA LOADING
 MENU DATA SAVING→RDD
 POWER OFF



 TURN THE SHUTTLE RING
 >> TO EXECUTE.
```

3. Turn the SHUTTLE ring twice to the right.
  • **"LOADING..." is displayed, and data reading is initiated.**

```
<QUICK SETTING>
▶RDD→MENU DATA LOADING
 MENU DATA SAVING→RDD
 POWER OFF



 LOADING...
```

4. "COMPLETED." is displayed when data reading has been completed.

```
<QUICK SETTING>
▶RDD→MENU DATA LOADING
 MENU DATA SAVING→RDD
 POWER OFF



 COMPLETED.
```

5. The message, "COMPLETED." is shown on the screen and then turn the SHUTTLE ring to the left.
  • **The message "COMPLETED." will disappear.**

6. Turn the JOG dial to select the POWER OFF, and turn the SHUTTLE ring to the right to define the setting.
  • **The power of this unit will be turned off.**

```
<QUICK SETTING>
 RDD→MENU DATA LOADING
 MENU DATA SAVING→RDD
▶POWER OFF
```

♦ MENU DATA SAVING ➜ RDD setting

Example: The RDD media saves menu settings stored on the unit.

1. Press the POWER button while pressing the ARCHIVE button to turn the power on.
  • **The <QUICK SETTING> menu will appear.**

```
<QUICK SETTING>
▶RDD→MENU DATA LOADING
 MENU DATA SAVING→RDD
 POWER OFF
```

➡ POWER OFF is displayed if a peripheral device is not connected to ID5.

➡ When settings are being made, the POWER button blinks and the unit does not accept any other commands.

2. Turn the JOG dial to select the "MENU DATA SAVING➜RDD", and turn the SHUTTLE ring to the right.
  • **When "TURN THE SHUTTLE RING >> TO EXECUTE." appears on the screen.**

```
<QUICK SETTING>
 RDD→MENU DATA LOADING
▶MENU DATA SAVING→RDD
 POWER OFF



 TURN THE SHUTTLE RING
 >> TO EXECUTE.
```

3. Turn the SHUTTLE ring twice to the right.
  • **"SAVING..." is displayed, and data saving is initiated. "COMPLETED." is displayed when data saving has been completed.**

```
<QUICK SETTING>
 RDD→MENU DATA LOADING
▶MENU DATA SAVING→RDD
 POWER OFF



 SAVING...
```

4. The message , "COMPLETED." is shown on the screen and then turn the SHUTTLE ring to the left.
  • **The message "COMPLETED." will disappear.**

5. Turn the JOG dial to select the POWER OFF, and turn the SHUTTLE ring to the right to define the setting.
  • **The power of this unit will be turned off.**

Various recording settings

■ **Various recording settings**

This Unit has many settings for various recordings needs. You have to make settings on different pages for normal recording and timer recording. Please refer to the table below for details. If the channel which is to be operated on <DEFINE GROUP SETTING> is not set, the warning will appear.

Setting \ Recording	Recording by setting manually				Timer recording			
	Normal recording	Page	Alarm recording	Page	Normal recording	Page	Alarm recording	Page

Image quality	IMAGE QUALITY in <NORMAL REC SETTING>
	
	<NORMAL REC SETTING>
	►IMAGE QUALITY HIGH
	  MAX REC FIELDS 12.5F
	  SELECT REC MODE (A)
		page 12	IMAGE QUALITY in <A-REC/M-DET SETTING>
			
			<A-REC/M-DET SETTING>
			►IMAGE QUALITY HIGH
			  MAX REC FIELDS 12.5F
			  DEFINE GROUP SETTING
				This page	IMAGE QUALITY in <NORMAL REC SETTING>
					
					<NORMAL REC SETTING>
					►IMAGE QUALITY HIGH
					  MAX REC FIELDS 12.5F
					  SELECT REC MODE (A)
						page 12	IMAGE QUALITY in <A-REC/M-DET SETTING>
							
							<A-REC/M-DET SETTING>
							►IMAGE QUALITY HIGH
							  MAX REC FIELDS 12.5F
							  DEFINE GROUP SETTING
								This page

Maximum recording setting	MAX REC FIELDS in <NORMAL REC SETTING>
	
	<NORMAL REC SETTING>
	  IMAGE QUALITY HIGH
	►MAX REC FIELDS 12.5F
	  SELECT REC MODE (A)
		page 13	MAX REC FIELDS in <A-REC/M-DET SETTING>
			
			<A-REC/M-DET SETTING>
			  IMAGE QUALITY HIGH
			►MAX REC FIELDS 12.5F
			  DEFINE GROUP SETTING
				page 36	MODE setting in <TIMER PROGRAM>
					
					<TIMER PROGRAM> P1
					  DW START END MODE
					► WED 09:30 10:00 A-12.5
					2 --- --:-- --:-- ------
						page 50	MAX REC FIELDS in <A-REC/M-DET SETTING>
							
							<A-REC/M-DET SETTING>
							  IMAGE QUALITY HIGH
							►MAX REC FIELDS 12.5F
							  DEFINE GROUP SETTING
								page 36

Recording duration	—	—	A-REC DURATION in <A-REC/M-DET SETTING>
			
			  DEFINE GROUP SETTING
			►A-REC DURATION 15S
			  RECORD ALARM SEP
			  PRE A-REC OFF
				page 36	START and END time in <TIMER PROGRAM>
					
					<TIMER PROGRAM> P1
					  DW START END MODE
					► WED 09:30 10:00 A-12.5
					2 --- --:-- --:-- ------
						page 50	A-REC DURATION in <A-REC/M-DET SETTING>
							
							  DEFINE GROUP SETTING
							►A-REC DURATION 15S
							  RECORD ALARM SEP
							  PRE A-REC OFF
								page 36

Recording camera channel (CH)	Selected SELECT REC MODE pattern on <NORMAL REC SETTING>
	
	<NORMAL REC SETTING>
	  IMAGE QUALITY HIGH
	  MAX REC FIELDS 12.5F
	►SELECT REC MODE (A)
		page 13	Selected RECORD ALARM setting on <A-REC/M-DET SETTING>
			
			  DEFINE GROUP SETTING
			  A-REC DURATION 15S
			►RECORD ALARM SEP
			  PRE A-REC OFF
				page 37	Selected SELECT REC MODE pattern on MODE setting of <TIMER PROGRAM>
					
					<TIMER PROGRAM>
					  DW START END MODE
					► WED 09:30 10:00 A-12.5
					2 --- --:-- --:-- ------
						page 50	Selected RECORD ALARM setting on <A-REC/M-DET SETTING>
							
							  DEFINE GROUP SETTING
							  A-REC DURATION 15S
							►RECORD ALARM SEP
							  PRE A-REC OFF
								page 37

♦ **Image quality setting**
For details please refer to "Setting the image quality" on page 12.

♦ **The maximum recording fields setting**
For details please refer to "Setting the maximum recording fields" on page 13.

♦ **Estimated recording time <ESTD TIME>**
For details please refer to "Setting the maximum recording fields" on page 13.

♦ **Image quality, Max recording fields, Define group setting and Alarm recording duration setting**

When the ALARM IN terminal is triggered by an alarm sensor and CH. MOTION DETECTION setting, the unit will switch to its preset recording intervals, and can record at both the regular recording intervals and another recording interval. In addition, settings can be made for the recording intervals and image quality used when the ALARM IN terminal is triggered.

Example: Setting the IMAGE QUALITY to "BASIC" (the default setting is "HIGH"). Set the MAX REC FIELDS to "6.25F" (the default setting is "12.5F"). Setting the CAMERA CH.① on the SELECT REC MODE menu as PRIORITY to "5", CAMERA CH.⑤ as PRIORITY to "-" (the default setting is all "1"). Setting the A-REC DURATION to

"5M" (the default setting is "15S").

➡ To use "PRI" setting, first turn the setting "ALL" on the "RECORD ALARM" setting. The "FILD" setting will appear.

1. Display the <MENU SETTING> menu. Turn the JOG dial to A-REC/M-DET SETTING then turn the SHUTTLE ring to the right.
• **The <A-REC/M-DET SETTING> menu will appear.**

```
<A-REC/M-DET SETTING>
▶IMAGE QUALITY    HIGH
 MAX REC FIELDS   12.5F
 DEFINE GROUP SETTING
 A-REC DURATION   15S
```

2. Turn the JOG dial to move the cursor to IMAGE QUALITY and turn the SHUTTLE ring to the right.
• **The sub-item will start flashing.**

```
▶IMAGE QUALITY    HIGH
 MAX REC FIELDS   12.5F
 DEFINE GROUP SETTING
```

➡ The image quality settings for NORMAL REC SETTING have to be set on the same menu. For details of settings for recordings, please refer to page 12.

3. Turn the JOG dial to flash "BASIC" and turn the SHUTTLE ring to the right.
  • **The sub-item stops flashing. Check that the IMAGE QUALITY is defined correctly.**

```
▶IMAGE QUALITY     BASIC
 MAX REC FIELDS    12.5F
 DEFINE GROUP SETTING
```

Other settings By turning the JOG dial, the sub-item of the IMAGE QLTY shown on the menu will be changed as follows:

→HIGH ↔ SUPERIOR ↔ BASIC ←
→ MEDIUM ↔ STANDARD ←

4. Turn the JOG dial to move the cursor to MAX REC FIELDS and turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

5. Turn the JOG dial to display "6.25F" and turn the SHUTTLE ring to the right to define the setting.
  • **The sub-item will stop flashing. Check that the MAX REC FIELDS is defined correctly.**

```
▶MAX REC FIELDS    12.5F
 DEFINE GROUP SETTING
 A-REC DURATION     15S
```
↓
```
▶MAX REC FIELDS    6.25F
 DEFINE GROUP SETTING
 A-REC DURATION     15S
```

Other settings By turning the JOG dial, the sub-item of the MAX REC FIELDS shown on the menu will be changed as follows:

→25F ↔12.5F↔ 8.33F ↔ 6.25F ←
→1F↔2.5F ↔ 4.17F↔5F ←

➡ The underlined items cannot be selected when the MOTION DETECTION setting is active.

➡ When the MOTION DETECTION setting in the INITIAL SET UP menu is turned ON, the MAX REC FIELDS for each time setting will be automatically altered as follows. These settings will not automatically revert to their former values even if MOTION DETECTION is turned OFF.

Case of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu.
"25F" ➔ "12.5F", "8.33F" ➔ "6.25F" , "5F" ➔ "4.17F"

Case of "MODE" in the <TIMER PROGRAM> menu.
"25" ➔ "12.5", "8.33" ➔ "6.25" , "5" ➔ "4.17"

6. Turn the JOG dial and move the cursor to "DEFINE GROUP SETTING" and turn the SHUTTLE ring to the right .
  • **The <DEFINE ALARM GROUP> menu appears.**

```
<DEFINE ALARM GROUP>
CH PRI FILD   CH PRI FILD
▶① 1  0.39   ⑨ 1  0.39
 ② 1  0.39   ⑩ 1  0.39
 ③ 1  0.39   ⑪ 1  0.39
 ④ 1  0.39   ⑫ 1  0.39
 ⑤ 1  0.39   ⑬ 1  0.39
 ⑥ 1  0.39   ⑭ 1  0.39
 ⑦ 1  0.39   ⑮ 1  0.39
 ⑧ 1  0.39   ⑯ 1  0.39
```

7. Check that the cursor is next to the CAMERA CH.① and turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

```
<DEFINE ALARM GROUP>
CH PRI FILD   CH PRI FILD
▶  1   0.39  ⑨ 1  0.39
 ② 1   0.39  ⑩ 1  0.39
 ③ 1  0.39   ⑪ 1  0.39
 ④ 1  0.39   ⑫ 1  0.39
 ⑤ 1  0.39   ⑬ 1  0.39
```

8. Turn the JOG dial to display " 5 " then turn the SHUTTLE ring to the right.
  • **The "-" is now selected.**

```
<DEFINE ALARM GROUP>
CH PRI FILD   CH PRI FILD
▶① 5  0.07   ⑨ 1  0.39
 ② 1  0.39   ⑩ 1  0.39
 ③ 1  0.39   ⑪ 1  0.39
 ④ 1  0.39   ⑫ 1  0.39
 ⑤ 1  0.39   ⑬ 1  0.39
```

9. Repeat Step 7 and 8 setting CAMERA CH.⑤ and turn the SHUTTLE ring to the right .
  • **The sub-item will stop flashing. Check that the CAMERA CH. is defined correctly.**

```
<DEFINE ALARM GROUP>
CH PRI FILD   CH PRI FILD
 ① 5  0.08   ⑨ 1  0.41
 ② 1  0.41   ⑩ 1  0.41
 ③ 1  0.41   ⑪ 1  0.41
 ④ 1  0.41   ⑫ 1  0.41
▶⑤ -         ⑬ 1  0.41
 ⑥ 1  0.41   ⑭ 1  0.41
 ⑦ 1  0.41   ⑮ 1  0.41
 ⑧ 1  0.41   ⑯ 1  0.41
```

➡ When the " - " is assigned, the camera is disabled.

Other settings By turning the JOG dial, the sub-item of the priority shown on the menu will be changed as follows:

→1 ↔ 2 ↔ 3 ←
→ - ↔ 5 ↔4 ←

➡ The define group settings for normal recording have to be set on the DEFINE GROUP SETTING in the <NORMAL REC SETTING> menu. For details of settings for recordings, please refer to page 14.

10. Turn the SHUTTLE ring to the left.
  • **The <A-REC/M-DET SETTING> menu will appear.**

11. Turn the JOG dial to move the cursor to A-REC DURATION and turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

12. Turn the JOG dial to display "5M" and turn the SHUTTLE ring to the right to define the setting.
  • **The sub-item will stop flashing. Check that the A-REC DURATION is defined correctly.**

```
▶A-REC DURATION     15S
 RECORD ALARM       ALL
 PRE A-REC
```
↓
```
▶A-REC DURATION     5M
 RECORD ALARM       ALL
 PRE A-REC
```

➡ "MAN": Alarm recording continues until the ALARM IN terminal is cleared.

Other settings By turning the JOG dial, the sub-item of the A-REC DURATION shown on the menu will be changed as follows:

→15S ↔30S ↔45S ↔1M↔2M↔5M←
→10S↔5S ↔2S ↔MAN↔10M ←

➡️ Please note that in the A-REC DURATION setting, MAN cannot be selected when the MOTION DETECTION setting in the <INITIAL SET UP> menu is "ON".

13. Turn the SHUTTLE ring to the left or press the SET UP button.

INFORMATION Please refer to "Alarm Recording operation" on page 53 for details of the alarm recording.

♦ Camera Alarm Rec setting

This is the setting for the camera to start recording when ALARM IN terminal is grounded (alarm recording signal is input). This setting is only effective during alarm recording. After alarm recording, operations return to their prior settings.

Example: Setting the RECORD ALARM to "ALL" (the default setting is "SEP").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to A-REC/M-DET SETTING then turn the SHUTTLE ring to the right.
• **The <A-REC/M-DET SETTING> menu will appear.**

3. Turn the JOG dial to move the cursor to RECORD ALARM then turn the SHUTTLE ring to the right to fix setting.
• **The sub-item will start flashing.**

4. Turn the JOG dial to display "ALL", and turn the SHUTTLE ring to the right to fix setting.
• **The sub-item will stop flashing.**

```
A-REC DURATION      15S
▶RECORD ALARM        ALL
 PRE A-REC           OFF
```

Other settings By turning the JOG dial, the sub - item of RECORD ALARM will be changed as follows:

SEP ↔ ALL

"SEP": The alarm recording will start only with the camera which received the alarm signal. If several cameras received alarm input at once, all of those cameras will start alarm recording.

"ALL": The alarm recording will start with all cameras set to be operated on the <DEFINE ALARM GROUP> menu when ALARM IN terminal is grounded.

5. Turn the SHUTTLE ring to the left or press the SET UP button.

➡️ When the RECORD ALARM setting is set to "SEP", the "PRI" setting on the <DEFINE GROUP SETTING> menu at this time can only be either " 1 " or " - ", and then the "FILD" will not be appear on screen.

♦ Pre-alarm recording setting

During alarm recording, it is possible to record the information before the ALARM IN terminal is activated.

Example: Set the PRE A-REC to "LONG" (the default setting is "OFF").

1. Make settings for IMAGE QUALITY , MAX REC FIELDS , DEFINE GROUP SETTING, A-REC DURATION and RECORD ALARM as shown on page 35 - 37 .

```
 A-REC DURATION      5M
▶RECORD ALARM        ALL
 PRE A-REC           OFF
```

2. Turn the JOG dial to move the cursor to PRE A-REC and turn the SHUTTLE ring to the right to flash the sub-item.

```
 A-REC DURATION      5M
 RECORD ALARM        ALL
▶PRE A-REC           OFF
```

3. Turn the JOG dial to flash LONG, and turn the SHUTTLE ring to the right. **The unit will be in stand-by mode for the Pre-alarm recording.**
• **PRE ALARM REC indicator on the front of the unit will start illuminating.**

```
 A-REC DURATION      5M
 RECORD ALARM        ALL
▶PRE A-REC           LONG
```

Other settings By turning the JOG dial, the sub-item of PRE A-REC will be changed as follows:

```
   → OFF ↔ SHORT ←
   → LONG ↔ MEDIUM ←
```

4. Ground the ALARM IN terminal.
• **The unit will start alarm recording.**

➡️ The duration of recording before the ALARM IN terminal is triggered depends on the MAX REC FIELDS, IMAGE QUALITY, and PRE A-REC settings. Please refer to "Pre-alarm Recording" on page 54 for details.

➡️ Setting cannot be altered in either the NORMAL REC SETTING menu or the A-REC/M-DET SETTING menu when the PRE A-REC menu is set to SHORT, MEDIUM, or LONG. In addition, the SELECT REC MODE (in the <NORMAL REC SETTING> menu) will display A-REC.

INFORMATION To activate pre-alarm recording on Timer programmes, please refer to "Pre-alarm Recording" on page 54.

Following the end of Pre-alarm recording, the regular value of the Alarm Recording settings returns to the value set in the IMAGE QUALITY, MAX REC FIELDS, DEFINE GROUP SETTING, and A-REC DURATION settings.

	Alarm input (ALARM IN signal)	
Recording Mode	**Pre-alarm recording**	**Alarm recording**
Effective recording setting	LONG/MEDIUM/SHORT of PRE A-REC IMAGE QUALITY/ MAX REC FIELDS of A-REC	IMAGE QUALITY/ MAX REC FIELDS/ A-REC DURATION
Effective recording CAMERA CH setting	All the CAMERA CH set in PRIORITY settings 1 – 5 of the DEFINE ALARM GROUP setting.	When RECORD ALARM setting is SEP, only the CAMERA CH receiving an Alarm Recording signal. When RECORD ALARM setting is ALL, all the CAMERA CH specified in the DEFINE GROUP SETTING setting.

When you wish to use the ALARM IN signal to activate Alarm Recording, CAMERA CH of the cameras to be used must be set to something other than "—".

•• ► Operations

➡ All the camera channels set in the Alarm Re-
cording's DEFINE GROUP SETTING are used for
the Pre-alarm Recording camera channels, even if,
for example, the SEP is selected in the RECORD
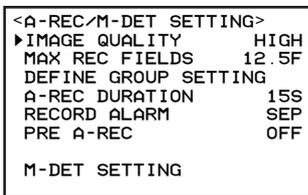ALARM setting.

♦ M-DET setting

These settings are used to make adjustments to the MO-
TION DETECTION function, which initiates Alarm Record-
ing when movement is detected within the images captured
by the cameras. To setup the M-DET SETTING, first turn the
MOTION DETECTION setting "ON" in the <INITIAL SET UP>
menu. The M-DET SETTING screen will not be displayed
when this setting is "OFF". Please refer to <INITIAL SET UP>
menu, MOTION DETECTION setting on page 32.

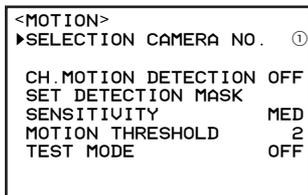*1. Press the SET UP button to display the <MENU SETTING>
menu.*

*2. Turn the JOG dial to select the A-REC/M-DET SETTING
and turn the SHUTTLE ring to the right.*
   • **The <A-REC/M-DET SETTING> menu will appear.**

```
<A-REC/M-DET SETTING>
▶IMAGE QUALITY      HIGH
 MAX REC FIELDS    12.5F
 DEFINE GROUP SETTING
 A-REC DURATION      15S
 RECORD ALARM        SEP
 PRE A-REC           OFF

 M-DET SETTING
```

*3. Turn the JOG dial to select the M-DET SETTING and turn
the SHUTTLE ring to the right.*
   • **The <MOTION> menu will appear.**

```
<MOTION>
▶SELECTION CAMERA NO.   ①

 CH.MOTION DETECTION OFF
 SET DETECTION MASK
 SENSITIVITY         MED
 MOTION THRESHOLD      2
 TEST MODE           OFF
```

➡ When the MOTION DETECTION setting in the
INITIAL SET UP menu is turned ON, the MAX REC
FIELDS for each time setting will be automatically
altered as follows. **These settings will not auto-
matically revert to their former values even if
MOTION DETECTION is turned OFF.**

Case of <NORMAL REC SETTING> menu and <A-
REC/M-DET SETTING> menu.
"25F" ➔ "12.5F", "8.33F" ➔ "6.25F" , "5F" ➔ "4.17F"

Case of "MODE" in the <TIMER PROGRAM> menu.
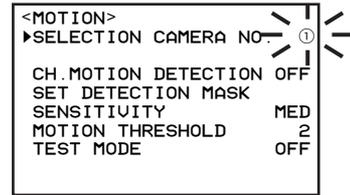"25" ➔ "12.5", "8.33" ➔ "6.25" , "5" ➔ "4.17"

♦ Selection camera NO.

In this step, the cameras used for the MOTION DETEC-
TION setting are selected.

Example: Setting the SELECTION CAMERA NO. to "⑤"(the
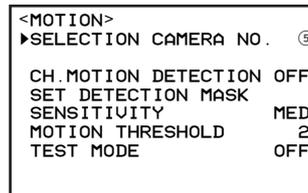default setting is "①").

*1. After step 3 of M-DET SETTING procedures above. Check
that the cursor is next to the SELECTION CAMERA NO. and
turn the SHUTTLE ring to the right.*
   • **The sub-item will start flashing.**

```
<MOTION>
▶SELECTION CAMERA NO.  ①

 CH.MOTION DETECTION OFF
 SET DETECTION MASK
 SENSITIVITY         MED
 MOTION THRESHOLD      2
 TEST MODE           OFF
```

*2. Turn the JOG dial to display " ⑤" then turn the SHUTTLE
ring to the right.*
   • **The sub-item stops flashing.**

```
<MOTION>
▶SELECTION CAMERA NO.   ⑤

 CH.MOTION DETECTION OFF
 SET DETECTION MASK
 SENSITIVITY         MED
 MOTION THRESHOLD      2
 TEST MODE           OFF
```

➡ When the SELECTION CAMERA NO. setting has
been made, the background display will switch to
the selected camera. By exiting the menu, the dis-
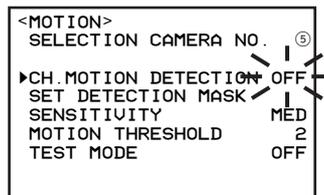play will revert to its original state.

♦ CH. motion detection setting

MOTION DETECTION function can make activated for
each of the connected cameras. The MOTION DETEC-
TION function becomes operative only after this setting has
been activated.

Example: Setting the CH. MOTION DETECTION to "ON"
(the default setting is "OFF").

*1. After step 3 of M-DET SETTING procedures left. Turn the
JOG dial to select the CH. MOTION DETECTION and turn
the SHUTTLE ring to the right.*
   • **The sub-item will start flashing.**

```
<MOTION>
 SELECTION CAMERA NO.   ⑤

▶CH.MOTION DETECTION OFF
 SET DETECTION MASK
 SENSITIVITY         MED
 MOTION THRESHOLD      2
 TEST MODE           OFF
```

*2. Turn the JOG dial to display ON then turn the SHUTTLE
ring to the right.*
   • **The sub-item stops flashing.**

```
<MOTION>
 SELECTION CAMERA NO.   ⑤

▶CH.MOTION DETECTION   ON
 SET DETECTION MASK
 SENSITIVITY         MED
 MOTION THRESHOLD      2
 TEST MODE           OFF
```

♦ Setting the detection mask

In this step, the dots which will activate the MOTION DE-TECTION function are set. Images inputted from each of the connected cameras are divided into a 10 x 12 vertical-horizontal grid. The DETECTION MASK can be selected as desired from the 120 dots displayed within the grid, and this setting can then be established.

Example: Using the images provided by the camera channel set in SELECTION CAMERA NO., the right half of the screen is selected as the DETECTION MASK and the activate symbol " ● " is displayed. (The inactive symbol " • " is displayed on the left half of the screen.) The default setting is active " ● " for the entire area in the DETECTION MASK setting.

" ● " : Active symbol (Indicates the area where CH. MOTION DETECTION is active.)

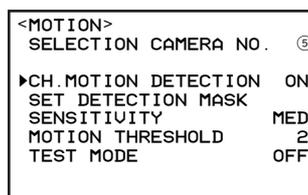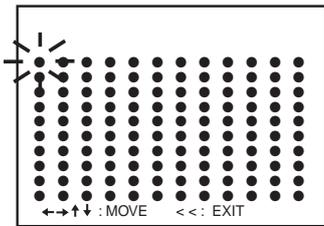" • " : Inactive symbol (Indicates the area where CH. MOTION DETECTION is inactive.)

1. After step 3 of M-DET SETTING procedures on page 38. Turn the JOG dial to select the SET DETECTION MASK and turn the SHUTTLE ring to the right.
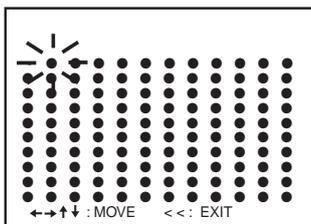 **• The <SET DETECTION MASK> menu will appear.**

2. Confirm that the active symbol " ● " is flashing on the upper left part of the screen, then turn the JOG dial to display the inactive symbol " • ".
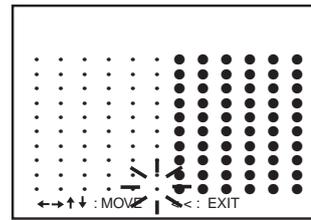 **• The inactive symbol " • " will start flashing.**
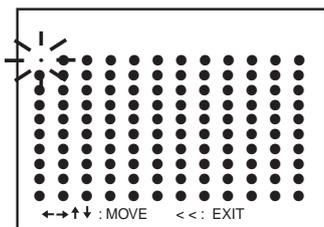
3. Next, press the camera button 4 " → " located on the unit's front face to move to the right.
  • The active symbol " ● " will start flashing.

4. Turn the JOG dial to display " • " then turn the SHUTTLE ring to the right. Repeat the above steps 2 - 4. The inactive mark " • " is displayed on the left half of the screen.

INFORMATION

To move to the left, press camera button 3 " ← ".
To move to the right, press camera button 4 " → ".
To move up, press camera button 5 " ↑ ".
To move down, press camera button 6 " ↓ ".
To select the entire screen, press camera button 1 "+".
To deselect the entire screen, press camera button 2 " - ".

➡ Other settings cannot be made while the SET DETECTION MASK settings are being made. If you wish to escape the screen while making settings, turn the SHUTTLE ring to the left.

5. Turn the SHUTTLE ring to the left to finish setting.

♦ Sensitivity setting

In this step, the detection sensitivity to movement within the image data is set. For each camera, image data is sampled and compared every 0.6 seconds. SENSITIVITY is the difference in the degree of brightness between the sampled images, and is divided into settings of five different levels. Select "HIGHER" to make the unit sensitive to the even the smallest changes. **Please note, however, that false alarms may be caused by, for example, the flickering of fluorescent lighting fixtures.**

Example: Setting the SENSITIVITY to "HIGH" (the default setting is "MED").

1. After step 3 of M-DET SETTING procedures on page 38. Turn the JOG dial to select the SENSITIVITY and turn the SHUTTLE ring to the right.
  • The sub-item will start flashing.
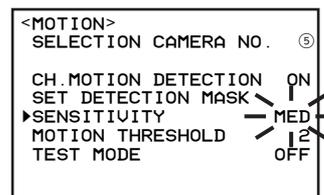
2. Turn the JOG dial to display HIGH then turn the SHUTTLE ring to the right.
  • The sub-item stops flashing.
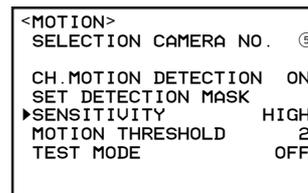
Other settings By turning the JOG dial, the sensitivity setting will be changed as below:

```
      → MED ↔ LOW ↔ LOWER ←
      → HIGH ↔ HIGHER ←
```

♦ **Motion threshold setting**

In this step, the MOTION THRESHOLD setting, which serves as the trigger to initiate Alarm Recording, is set. In this setting, the minimum number of active dots required to initiate the MOTION DETECTION is established. The dots are activated in the MOTION DETECTION function settings. Using this value, the unit begins the MOTION DETECTION when motion has been detected in more than the specified minimum number of dots.

➡ When establishing a value for the MOTION THRESHOLD setting, use a value which does not exceed the number of active dots set for the MOTION DETECTION function. **Please note that the MOTION DETECTION function will not operate if a larger value is used.**

Example: Setting the MOTION THRESHOLD to "5" (the default setting is "2").

1. After step 3 of M-DET SETTING procedures on page 38. Turn the JOG dial to select the MOTION THRESHOLD and turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

```
<MOTION>
 SELECTION CAMERA NO.    ⑤

 CH.MOTION DETECTION   ON
 SET DETECTION MASK
 SENSITIVITY          HIGH
▶MOTION THRESHOLD        2
 TEST MODE             OFF
```

2. Turn the JOG dial to display 5 then turn the SHUTTLE ring to the right.
  • **The sub-item stops flashing.**

```
<MOTION>
 SELECTION CAMERA NO.    ⑤

 CH.MOTION DETECTION   ON
 SET DETECTION MASK
 SENSITIVITY          HIGH
▶MOTION THRESHOLD        5
 TEST MODE             OFF
```

♦ **Test mode setting**

Testing MOTION DETECTION setting.

Example: Setting the TEST MODE to "ON" (the default setting is "OFF").

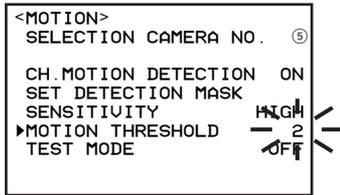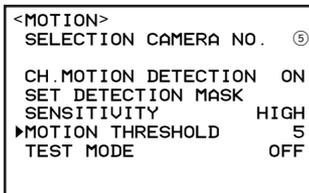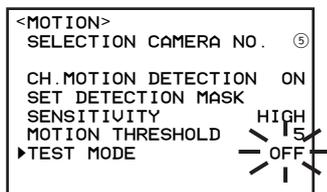➡ To set the TEST MODE, please turn ON the CH. MOTION DETECTION.

1. After step 3 of M-DET SETTING procedures on page 38. Turn the JOG dial to select the TEST MODE and turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

```
<MOTION>
 SELECTION CAMERA NO.    ⑤

 CH.MOTION DETECTION   ON
 SET DETECTION MASK
 SENSITIVITY          HIGH
 MOTION THRESHOLD        5
▶TEST MODE             OFF
```

2. Turn the JOG dial to display ON then turn the SHUTTLE ring to the right.
  • **The <TEST MODE> menu will appear.**

➡ The area where the MOTION DETECTION function has been activated is displayed using "•". When motion is detected on more dots than specified in the MOTION THRESHOLD setting, i.e., when Alarm Recording is initiated, the active symbol " ● " will appear on-screen. Please redo settings if the unit does not operate as intended.

3. To finish setting, turn the SHUTTLE ring to the left.

➡ When motion is continuously detected within the active area established for the MOTION DETECTION function, Alarm Recording will also continue. In this case, each Alarm Recording will be extended the duration that selecting sub-item in the A-REC DURATION setting; these recordings will not, however, not be registered on the ALARM LIST. If Alarm Recording stops once, then re-starts at a later time, this event will be registered on the ALARM LIST.

➡ MOTION DETECTION HOLD FUNCTION
When Alarm Recording continues as a result of motion being continuously detected, the unit cannot receive instructions for other functions. In this situation, the MOTION DETECTION function can be frozen for two seconds after pressing the STOP button to stop the Alarm recording, which will override and halt Alarm Recording. Settings can then be made for other functions during this time. If settings are not altered, the unit will automatically return to recording after two seconds.

➡ As the ALARM IN terminals located on the unit's rear are always active, their input signals are given priority during Alarm Recording. In addition, when the MOTION DETECTION function has been activated, Alarm Recording will begin depending on the input signals from each of the terminals.

➡ The MOTION DETECTION function cannot be accessed when menus are left open.

➡ The M-DET indicator light is off when the MOTION DETECTION function cannot be accessed.

There may be cases when the unit's built-in MOTION DETECTION function does not operate properly due to external condition or video input signal or other factors.

➡ When you wish to use the MOTION DETECTION function to activate Alarm Recording, the CAMERA CH of the cameras to be used must be set to something other than " - " in the PRI (priority) setting of the DEFINE ALARM GROUP menu.
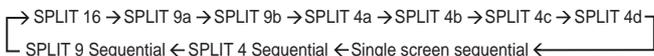
■ Multiplexer functions

Please refer to "Multiplexer functions" on Basic Operation page 12 for details about the functions.

■ Multiplexer buttons

The use of SPLIT/SEQUENCE button
By pressing the SPLIT/SEQUENCE button, you can switch the display mode as follows:

→ SPLIT 16 → SPLIT 9a → SPLIT 9b → SPLIT 4a → SPLIT 4b → SPLIT 4c → SPLIT 4d ⌐
└ SPLIT 9 Sequential ← SPLIT 4 Sequential ← Single screen sequential ←

➡ The refresh cycle of camera images becomes longer as the number of cameras increases. Image can be viewed faster when cameras which are not needed are removed from the cameras designated in the DEFINE GROUP SETTING parameter on the <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu.

➡ Images are displayed in real time during single screen display.

➡ For details of the Camera number buttons and SPLIT/SEQUENCE button, please refer to "The functions of the SPLIT/SEQUENCE button, ZOOM button and camera number buttons" on next page.

INFORMATION You can arrange the layout of all SPLIT DISPLAY settings on SPLIT SCREEN SETTING in the <MPX DISPLAY> menu. For details please refer to pages 43,44 , "SPLIT 4 SCREEN setting","SPLIT 9 SCREEN setting","SPLIT 16 SCREEN setting".

Other settings It is also possible to select settings of SPLIT DISPLAY during playback by pressing the SPLIT/SEQUENCE button:

→ SPLIT 16 ↔ SPLIT 9a ↔ SPLIT 9b ↔ SPLIT 4a ⌐
└→ SPLIT 4d ↔ SPLIT 4c ↔ SPLIT 4b ←
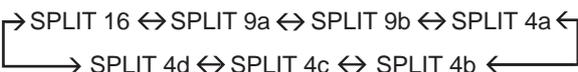
➡ When the SPLIT SW PATTERN setting of the MPX DISPLAY menu is set to "SHORT", display is limited to either SPLIT16 or single screen.

⊘ When Non-operation camera was set in SPLIT9 and SPLIT 4 setting on the <SPLIT SCREEN SETTING> menu, " - " appears where the camera number is supposed to be displayed.

06-09-2000	12:12:05
①	③
–	⑨

➡ You can view any picture in actual screen size by pressing the camera number button during SPLIT/SEQUENCE button is used. You can go back to the previous SPLIT DISPLAY by pressing the SPLIT/SEQUENCE button again.

♦ How to use the ZOOM button

1. Display the ZOOM POINTER (X) by pressing the ZOOM button.
   • **The display enlargement function can be used only during single screen display.**
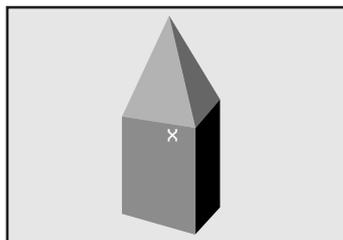
2. Move the pointer to the desired position by pressing the camera number buttons 3 to 6.
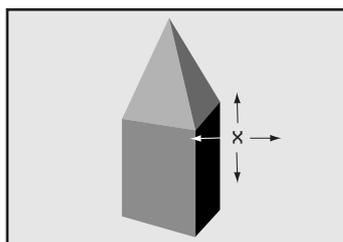
3. Pressing the number 1 button (ZOOM IN)will enlarge the picture twice (X2) and four times (X4) as large as the actual display size.
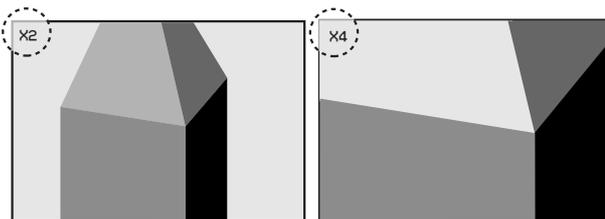
➡ Pressing the camera number 2 button (ZOOM OUT button) will change the size of the display picture to actual display size. During enlarged display viewing, cannot display the menu.

➡ The ZOOM POINTER'S position does not change when the display screen changes or when power is turned off. This is convenient for situations where the desired viewing areas, such as the counter or cash register, are determined in advance. In addition, the ZOOM POINTER can be used during playback of recorded images.

➡ When playing back images from multiple cameras on single screen, if the ZOOM control is used during the pause mode there is a possibility that a black screen will be displayed. In this case, the desired enlarged image can be obtained by moving through frames using the JOG dial.

INFORMATION • Because ZOOM display function involves electronic enlargement, details of the image will appear pixelized when enlarged.

• Enlarged display is cancelled if the Alarm recording start is triggered during enlarged display viewing.

♦ How to use the camera number buttons

By pressing each camera number button, you can view the camera's picture which is connected to the CAMERA INPUT on the rear of this unit. If the picture of the camera which is not set to operate on DEFINE GROUP SETTING of the <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu, the Not-operated camera mark (⌀) will appear next to the time display. You can also view the picture of the camera when watching SPLIT or SEQUENCE screen by pressing the camera number button.

■ SPLIT/SEQUENCE button

By pressing the SPLIT/SEQUENCE button, the SPLIT picture modes will be switched as follows:

```
  ┌─► SPLIT 16 ─► SPLIT 9a ─► SPLIT 9b ─► SPLIT 4a ─► SPLIT 4b ─► SPLIT 4c ─┐
  │                                                                          │
  └── SPLIT 9 sequential ◄─ SPLIT 4 sequential ◄─ Single screen sequential ◄─ SPLIT 4d ◄┘
```

■ The functions of the SPLIT/SEQUENCE button, ZOOM button and camera number buttons

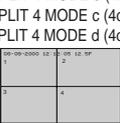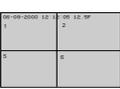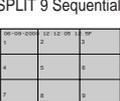The present time display is changed to be DISPLAY MODE 1, when in SPLIT or SEQUENCE screen mode. You cannot arrange the place of the present time display. If the camera picture without the picture input signal is displayed, the screen will be shown as a blue screen. When in SPLIT or SEQUENCE screen mode, Not-operated camera's picture will be shown as a black screen.

Display		SPLIT/ SEQUENCE	ZOOM button	Flashing/illuminating Of Camera number buttons	Page
SPLIT 16		SPLIT/SEQUENCE OFF	ZOOM OFF	The video of operated camera will be displayed in SPLIT 16 mode. The video of cameras will be shown in order. Set the order on DEFINE GROUP SETTING of the <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu. Camera number button which is set to be operated on DEFINE GROUP SETTING of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu will only illuminates.	44
SPLIT 9 MODE a (9a) SPLIT 9 MODE b (9b)		SPLIT/SEQUENCE OFF	ZOOM OFF	Images taken from the camera number selected as SPLIT9 a (or b) of the SPLIT 9 SETTING on the <MPX DISPLAY> menu are displayed on a 9-split screen. Images will be changed in sequence and displayed as the selected camera's camera number button is lit. Please set DEFINE GROUP SETTING on <NORMAL REC SETTING> or <A-REC/M-DET SETTING> menu. Camera number button which is set to be operated on DEFINE GROUP SETTING of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu will only illuminates.	43, 44
SPLIT 4 MODE a (4a) SPLIT 4 MODE b (4b) SPLIT 4 MODE c (4c) SPLIT 4 MODE d (4d)		SPLIT/SEQUENCE OFF	ZOOM OFF	Images taken from the camera number selected as SPLIT4 a (b,c or d) of the SPLIT 4 SETTING on the <MPX DISPLAY> menu are displayed on a 4-split screen. Images will be changed in sequence and displayed as the selected camera's camera number button is lit. Please set DEFINE GROUP SETTING on <NORMAL REC SETTING> or <A-REC/M-DET SETTING> menu. Camera number button which is set to be operated on DEFINE GROUP SETTING of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu will only illuminates.	43
Single screen Seqential		SPLIT/SEQUENCE Illuminating	ZOOM OFF	Display the picture of the camera for the time which is set on SEQUENCE of the <MPX DISPLAY> menu. Camera number button which has display is illuminating. When a screen from a camera designated as non-operational is displayed, the camera number display will show "-" and the non-operational camera mark (⌀) will appear next to the recording time.	41
SPLIT 4 Sequential		SPLIT/SEQUENCE Illuminating	ZOOM OFF	SPLIT 4 display (abcd,abc,ab or a) which is set on SEQUENCE of the <MPX DISPLAY> menu will be displayed for set up time. Camera number button which is set to be operated on DEFINE GROUP SETTING of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu will only illuminates. When a screen from a camera designated as non-operational is displayed, the camera number display will show "-" .	41, 43
SPLIT 9 Sequential		SPLIT/SEQUENCE Illuminating	ZOOM OFF	SPLIT 9 display (ab or a) which is set on SEQUENCE of the <MPX DISPLAY> menu will be displayed for set up time. Camera number button which is set to be operated on DEFINE GROUP SETTING of <NORMAL REC SETTING> menu and <A-REC/M-DET SETTING> menu will only illuminates. When a screen from a camera designated as non-operational is displayed, the camera number display will show "-".	41, 43
Single screen	Not enlarged	SPLIT/SEQUENCE OFF	ZOOM OFF	Camera number button which has display is illuminating.	41
	Enlarged	SPLIT/SEQUENCE OFF	ZOOM Illuminating	Camera buttons which has been activated as DISPLAY-1, X2 or X4 will be illuminated.	41
During Alarm recording and Pre-alalrm recording *If the Alarm signal and pre-alarm signal is input during SPLIT/SEQUENCE mode.				Regardless of SPLIT 16,SPLIT 9, SPLIT 4 or DISPLAY-1mode, camera number buttons which are activated via an Alarm recording and Pre-alarm recording start flashing.	53, 54

■ Multiplexer display
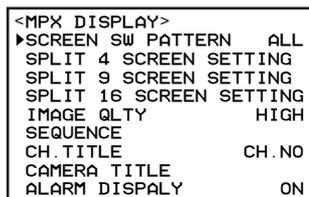
♦ SCREEN SW PATTERN settings
In this steps, the screen switch pattern is set.

Example: Setting the screen switch pattern to "SHORT" (the default setting is "ALL").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to MPX DISPLAY and turn the SHUTTLE ring to the right.
  • The <MPX DISPLAY> menu will appear.

```
<MPX DISPLAY>
▶SCREEN SW PATTERN    ALL
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY          HIGH
 SEQUENCE
 CH.TITLE          CH.NO
 CAMERA TITLE
 ALARM DISPALY        ON
```

3. Check that the cursor is next to the SCREEN SW PATTERN and turn the SHUTTLE ring to the right.
  • The sub-item will start flashing.

```
<MPX DISPLAY>
▶SCREEN SW PATTERN    ALL
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY          HIGH
```

4. Turn the JOG dial to display SHORT then turn the SHUTTLE ring to the right.
  • The sub-item stops flashing.

```
<MPX DISPLAY>
▶SCREEN SW PATTERN SHORT
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY          HIGH
```

> **Other settings**

"ALL" : using this setting, all the display modes and sequential display modes for SPLIT9, SPLIT4, and single screens can be selected.

"SHORT" : using this setting, single screen sequential, SPLIT4, SPLIT9 sequential and SPLIT16 displays can be selected. By combining SEQUENCE with the split-screen display setting, a fixed split-screen display pattern can be established. Please note that, in this case, only single screen and SPLIT16 can be selected during playback.

5. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ SPLIT 4 SCREEN setting
SPLIT 4 SCREEN setting mode, you can choose between a to d of SPLIT 4 display mode. Before you choose the setting, arrange the camera position as you like in this section.

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to MPX DISPLAY and turn the SHUTTLE ring to the right.
  • The <MPX DISPLAY> menu will appear.

3. Turn the JOG dial to move the cursor to SPLIT 4 SCREEN SETTING then turn the SHUTTLE ring to the right.
  • The <SPLIT4 SCREEN SETTING> menu will appear.

```
<SPLIT4 SCREEN SETTING>
▶SPLIT4a      SPLIT4b

  ① ②          ⑤ ⑥
  ③ ④          ⑦ ⑧

  SPLIT4c      SPLIT4d

  ⑨ ⑩          ⑬ ⑭
  ⑪ ⑫          ⑮ ⑯
```

4. Make sure that the cursor is next to "SPLIT4a". Turn the SHUTTLE ring to the right.

5. Check that the top left number (default setting is set to ①) is flashing. Turn the JOG dial to display the desired camera number then turn the SHUTTLE ring to the right to fix setting.
  • The flashing will move to the next camera number.

```
<SPLIT4 SCREEN SETTING>
▶SPLIT4a      SPLIT4b

  ① ②          ⑤ ⑥
  ③ ④          ⑦ ⑧

  SPLIT4c      SPLIT4d

  ⑨ ⑩          ⑬ ⑭
  ⑪ ⑫          ⑮ ⑯
```

6. Set all camera numbers according to the steps written on the previous page.

```
<SPLIT4 SCREEN SETTING>
▶SPLIT4a      SPLIT4b

  ② ⑤          ① ⑥
  ⑨ ⑧          ⑦ ⑫

  SPLIT4c      SPLIT4d

  ⑭ ③          ⑩ ⑬
  ⑪ ⑯          ⑮ ④
```

7. Check that all camera numbers are set .Turn the SHUTTLE ring to the right to fix setting.
  • The flashing will stop.
  • Settings cannot be made when the same camera number is in SPLIT 4 SCREEN setting mode. (Possible if using a different SPLIT4 operation) When the same camera has been selected, the blinking light will return to its original state even if all the camera numbers have been input. Check to see if the same camera number has been entered; if the same number has been entered, please change the settings.

8. Press the SET UP button.
  • The <SPLIT4 SCREEN SETTING> menu will disappear.

♦ SPLIT 9 SCREEN setting
Example: Displaying desired camera pictures with desired layout in SPLIT 9 SCREEN.

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to MPX DISPLAY and turn the SHUTTLE ring to the right.
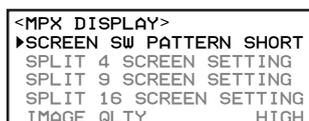 **• The <MPX DISPLAY> menu will appear.**

3. Turn the JOG dial to move the cursor to SPLIT 9 SCREEN SETTING then turn the SHUTTLE ring to the right.
  • The <SPLIT9 SCREEN SETTING> menu will appear.

```
<SPLIT9 SCREEN SETTING>
▶SPLIT9a      SPLIT9b

  ① ② ③        ① ② ⑩
  ④ ⑤ ⑥        ⑪ ⑫ ⑬
  ⑦ ⑧ ⑨        ⑭ ⑮ ⑯
```

4. Make sure that the cursor is next to "SPLIT 9a" . Turn the SHUTTLE ring to the right.

5. Repeat steps 5 to 7 of SPLIT 4 SCREEN setting on page 43 to set the rest of the position.
•You cannot set the same number in SPLIT 9 SCREEN setting. If the flashing goes back to the original position, you have to change settings to make sure the same camera numbers are not set at different positions.

6. Press the SET UP button.
•The <SPLIT9 SCREEN SETTING> menu will disappear.

(!) You cannot exit the menu if you set same camera numbers at different positions. In this case, please change settings.

♦ SPLIT 16 SCREEN setting
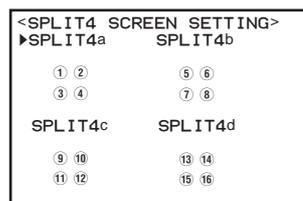Example: Displaying desired camera pictures with desired layout in SPLIT 16 SCREEN.

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to MPX DISPLAY and turn the SHUTTLE ring to the right.
•The <MPX DISPLAY> menu will appear.

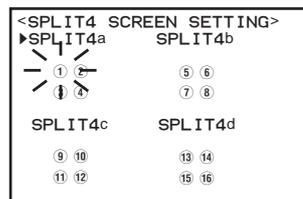*3. Turn the JOG dial to move the cursor to SPLIT 16 SCREEN SETTING then turn the SHUTTLE ring to the right.*
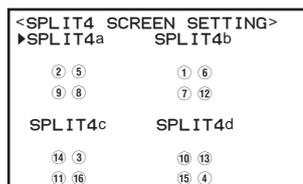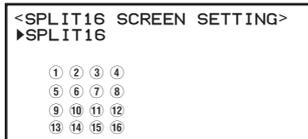**•The <SPLIT16 SCREEN SETTING> menu will appear.**

```
<SPLIT16 SCREEN SETTING>
▶SPLIT16

   ① ② ③ ④
   ⑤ ⑥ ⑦ ⑧
   ⑨ ⑩ ⑪ ⑫
   ⑬ ⑭ ⑮ ⑯
```

4. Make sure that the cursor is next to "SPLIT 16". Turn the SHUTTLE ring to the right.

5. Repeat steps 5 to 7 of SPLIT 4 SCREEN setting on page 43 to set the rest of the position.
• You cannot set the same number in SPLIT 16 SCREEN setting. If the flashing goes back to the original position, you have to change settings to make sure the same camera numbers are not set at different positions.

6. Press the SET UP button.
•The <SPLIT16 SCREEN SETTING> menu will disappear.

(!) You cannot exit the menu if you set same camera numbers at different positions. In this case, please change settings.

♦ Image quality of split screen
It is possible to set the image quality for split-screen display mode. Fine details are visible when image quality is set to "HIGH", and screen flicker is reduced when set to "NO FLICKER". Vertical resolution decreases when split screen image quality(IMAGE QLTY) is set to "NO FLICKER".

➡ By setting IMAGE QLTY to "NO FLICKER", images being displayed in either SPLIT4, SPLIT9, or SPLIT16 modes will show reduced flicker, although vertical resolution may slightly degraded.

Example: Setting the image quality of split screen to "NO FLICKER" (the default setting is "HIGH").

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to MPX DISPLAY then turn the SHUTTLE ring to the right.
• The <MPX DISPLAY> will appear.

3. Turn the JOG dial to move the cursor to IMAGE QLTY then turn the SHUTTLE ring to the right to select the sub-item.

```
SPLIT 16 SCREEN SETTING
▶IMAGE QLTY      HIGH
 SEQUENCE
```

4. Turn the JOG dial to choose "NO FLICKER" and turn the SHUTTLE ring to the right to fix setting.
• The sub-item will stop flashing.

```
SPLIT 16 SCREEN SETTING
▶IMAGE QLTY   NO FLICKER
 SEQUENCE
```

5. Turn the SHUTTLE ring to the left or press the SET UP button to finish setting.

♦ SEQUENCE setting
The sequential setting is designed to automatically switch the on-screen image in the order in which the connected cameras are displayed. The switching time can be set as well. The two types of display patterns set in the SPLIT 9 setting and the four types of display patterns set in the SPLIT 4 setting can be made to automatically switch in sequence. Repeated registration of the same camera is also possible. <u>The same camera can also be registered repeatedly.</u>

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to MPX DISPLAY then turn the SHUTTLE ring to the right.
• The <MPX DISPLAY> menu will appear.

3. Move the cursor to SEQUENCE then turn the SHUTTLE ring to the right.
• The <SEQUENCE> menu will appear.

4. Turn the JOG dial to select the desired camera number, then turn the SHUTTLE ring to the right.
• The channel number will start flashing.

```
<SEQUENCE>
SEQ. 1   CH→①─TIME 1S
      2       ①      1S
      3       ③      1S
      4       ④      1S
```

➡ The SEQUENCE menu is composed of two screens. By rotating the jog to move the cursor from its position next to the CH.① number to CH.⑨, the menu will automatically scroll to the next screen.

```
<SEQUENCE>
SEQ. 10  CH.▶ ⑩     TIME 1S
      11      ⑪          1S
      12      ⑫          1S
      13      ⑬          1S
      14      ⑭          1S
      15      ⑮          1S
      16      ⑯          1S
SPLIT4        abcd        1S
SPLIT9        ab          1S
```
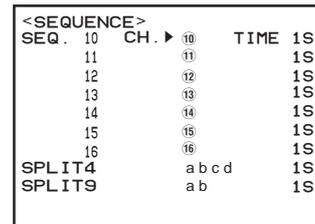
5. Turn the JOG dial till desired channel number appears and turn the SHUTTLE ring to the right to enter the selection.
• The flashing will move to "TIME".

```
<SEQUENCE>
SEQ.  1    CH.▶①   TIME 1S
       2       ②        1S
       3       ③        1S
       4       ④        1S
```

6. Turn the JOG dial to display desired length of time then turn the SHUTTLE ring to the right to fix setting.
  • **Maximum of 30 seconds can be set.**

```
<SEQUENCE>
SEQ.  1    CH.▶①   TIME10S
       2       ②        1S
       3       ③        1S
       4       ④        1S
```

7. Repeat steps 4,5 and 6 above to fix settings for other cameras.

8. (If you wish to display SPLIT 4 between a to d) Turn the JOG dial to move the cursor to SPLIT 4 and turn the SHUTTLE ring to the right to choose pattern from abcd, abc, ab or a.
  • **The selected pattern will start flashing.**

```
<SEQUENCE>
SEQ. 10    CH. ⑩    TIME10S
      11       ⑪        10S
      12       ⑫        10S
      13       ⑬        10S
      14       ⑭        10S
      15       ⑮        10S
      16       ⑯         1S
SPLIT4          ▶ abcd    10S
SPLIT9            a b      1S
```

➡ Four SPLIT 4 display switching patterns can be selected: abcd, abc, ab, and a. Two SPLIT 9 display switching patterns can be selected: ab and a. Camera images automatically switched in the SPLIT 4 and SPLIT 9 display modes are from the cameras set in the SPLIT 9 and SPLIT 4 settings of the <MPX DISPLAY> menu. Furthermore, by selecting "a", it is also possible to fix camera switching during sequential display.

♦ Displaying the title
You can chose whether to display the channel title (TITLE on the <CAMERA TITLE > menu) or CH number on screen.

Example: Display title on screen (the default setting is "CH.NO").

1. Press the SET UP button to display the <MENU SETTING> menu.

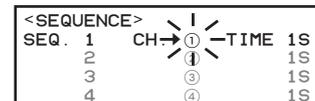*2. Turn the JOG dial to move the cursor to MPX DISPLAY then turn the SHUTTLE ring to the right.*
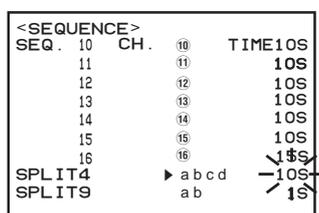 • **The <MPX DISPLAY> menu will appear.**

3. Turn the JOG dial to move the cursor to CH.TITLE then turn the SHUTTLE ring to the right.
  • **The sub-item will start flashing.**

```
▶CH.TITLE          CH.NO
 CAMERA TITLE
 ALARM DISPLAY         ON
```

4. Turn the JOG dial until "TITLE" flashes and turn the SHUTTLE ring to the right to finish setting.

```
▶CH.TITLE          TITLE
 CAMERA TITLE
 ALARM DISPLAY         ON
```

Other settings By turning the JOG dial, the sub-item of CH. TITLE will be changed as follows:

TITLE ↔ CH.NO ↔ NONE

"TITLE" : captions set in the title display setting are displayed.

"CH. NO" : only channel numbers are displayed.

"NONE" : no captions are displayed.

5. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ Camera title setting
Operation titles can be added to each of the cameras connected to the unit.

➡ In one-screen display mode, up to 16 characters can be displayed. In SPLIT 4 MODE, the first 8 characters are displayed. Titles cannot be displayed in SPLIT 9 MODE and SPLIT 16 MODE. In addition, displayed titles do not get recorded.

Example: Setting the Camera CH (channel) ⑤ .The title will be "EXIT" .

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Move the cursor (▶) to MPX DISPLAY then turn the SHUTTLE ring to the right.
  • **The <MPX DISPLAY> menu will appear.**

```
<MPX DISPLAY>
▶SCREEN SW PATTERN    ALL
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY           HIGH
 SEQUENCE
 CH.TITLE            CH.NO
 CAMERA TITLE
 ALARM DISPALY         ON
```
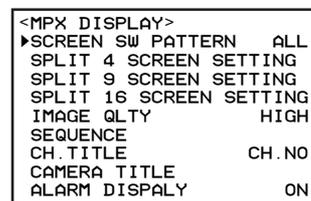
3. Turn the JOG dial to move the cursor to CAMERA TITLE and turn the SHUTTLE ring to the right.

```
CAMERA              CAMERA TITLE
NUMBER
         <CAMERA TITLE>
       CH   TITLE
      ▶①    . . . . . . . . . . . . . . . .
       ②    . . . . . . . . . . . . . . . .
       ③    . . . . . . . . . . . . . . . .
       ④    . . . . . . . . . . . . . . . .
       ⑤    . . . . . . . . . . . . . . . .
       ⑥    . . . . . . . . . . . . . . . .
       ⑦    . . . . . . . . . . . . . . . .
       ⑧    . . . . . . . . . . . . . . . .
```

➡ The <CAMERA TITLE> menu is composed of two screens. By rotating the JOG dial to move the cursor from its position next to the camera number to CH⑧, the menu will automatically scroll to the next screen.

```
<CAMERA TITLE>
CH  TITLE
▶⑨  . . . . . . . . . . . . . . . .
 ⑩  . . . . . . . . . . . . . . . .
 ⑪  . . . . . . . . . . . . . . . .
 ⑫  . . . . . . . . . . . . . . . .
 ⑬  . . . . . . . . . . . . . . . .
 ⑭  . . . . . . . . . . . . . . . .
 ⑮  . . . . . . . . . . . . . . . .
 ⑯  . . . . . . . . . . . . . . . .
```

4. Turn the JOG dial to the right to move the cursor next to CH ⑤ and turn the SHUTTLE ring to the right to flash the first column of the TITLE setting.

```
  ④  . . . . . . . . . . . . . . . .
 ▶⑤  ☀ . . . . . . . . . . . . . . .
  ⑥  . . . . . . . . . . . . . . . .
```

5. Turn the JOG dial to display "E" and turn the SHUTTLE ring to the right to move the flashing to next column.

```
  ④  . . . . . . . . . . . . . . . .
 ▶⑤  E. . . . . . . . . . . . . . . .
  ⑥  . . . . . . . . . . . . . . . .
```

```
  ④  . . . . . . . . . . . . . . . .
 ▶⑤  EXIT☀ . . . . . . . . . . . .
  ⑥  . . . . . . . . . . . . . . . .
```

6. Repeat Steps 4 and 5 to input "EXIT".
• **Turning the SHUTTLE ring to the left while inputting will erase the character. To exit the TITLE column, move the flashing to the right end, then turn the SHUTTLE ring to the right to fix title setting.**
• **To continue title setting, turn the JOG dial to move the cursor to desired camera CH.**

```
  ④  . . . . . . . . . . . . . . . .
 ▶⑤  EXIT. . . . . . . . . . ☀
  ⑥  . . . . . . . . . . . . . . . .
```
↓
```
  ④  . . . . . . . . . . . . . . . .
 ▶⑤  EXIT. . . . . . . . . . . .
  ⑥  . . . . . . . . . . . . . . . .
```

7. To finish setting, turn the SHUTTLE ring to the left or press the SET UP button.
• **You cannot exit the menu till you complete title setting. To fix the setting please refer to step 4.**

♦ Alarm display setting

During alarm signal input, display will be changed from the regular screen or split-screen modes to show images from the camera responsible for the alarm signal. If, during Alarm Recording, a different Alarm Recording is initiated, images from the newest alarm input channel will be shown on a single-screen display. The screen display will revert to its original state upon completion of Alarm Recording.

Example: Setting the ALARM DISPLAY to "OFF" (the default setting is "ON").
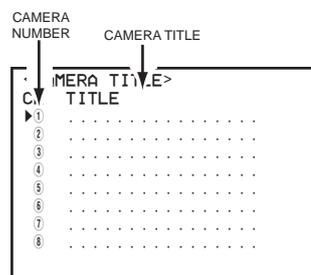
1. Press the SET UP button to display the <MENU SETTING> menu.

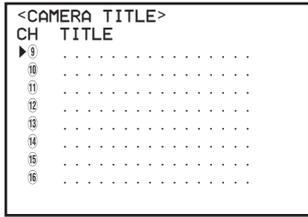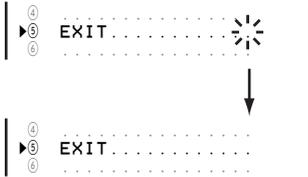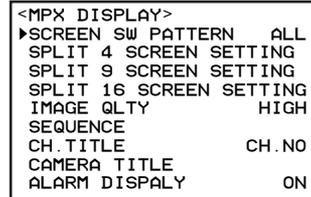*2. Move the cursor (▶) to MPX DISPLAY then turn the SHUTTLE ring to the right.*
• **The <MPX DISPLAY> menu will appear.**

```
<MPX DISPLAY>
▶SCREEN SW PATTERN    ALL
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY          HIGH
 SEQUENCE
 CH.TITLE           CH.NO
 CAMERA TITLE
 ALARM DISPALY        ON
```

3. Turn the JOG dial to move the cursor to ALARM DISPLAY and turn the SHUTTLE ring to the right.
• **The sub-item flashes.**
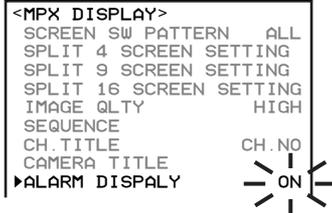
```
<MPX DISPLAY>
 SCREEN SW PATTERN    ALL
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY          HIGH
 SEQUENCE
 CH.TITLE           CH.NO
 CAMERA TITLE
▶ALARM DISPALY       ☀ON☀
```

4. Turn the JOG dial until "OFF" flashes and turn the SHUTTLE ring to the right.
• **The sub-item stops flashing.**

```
<MPX DISPLAY>
 SCREEN SW PATTERN    ALL
 SPLIT 4 SCREEN SETTING
 SPLIT 9 SCREEN SETTING
 SPLIT 16 SCREEN SETTING
 IMAGE QLTY          HIGH
 SEQUENCE
 CH.TITLE           CH.NO
 CAMERA TITLE
▶ALARM DISPALY       OFF
```

5. Turn the SHUTTLE ring to the left or press the SET UP button.
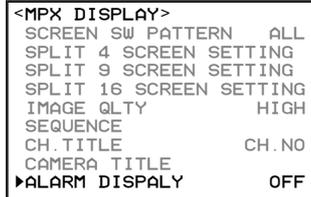
Operation examples

■ Operation example 1: Simultaneous Backup using the Timer

The Timer can be used for making weekly data backups when the unit is running in continuous recording mode. The unit will automatically eject the storage medium upon completion of the backup, and a new one may then be inserted into the machine.

System configuration

Example of a system using the following peripherals:
- **16 video cameras**
- **Archive device connected to ID4**
- **Monitor**

Monitor

···(Up to 16 cameras)

ID4: archive device

Images provided by each of the connected cameras are recorded 24 hours a day, and the unit will make a backup of one week's volume of image data while it 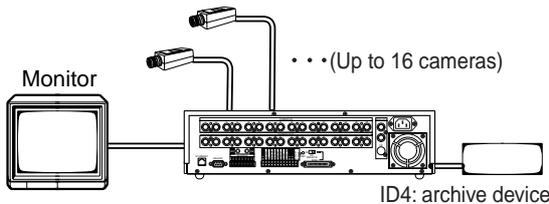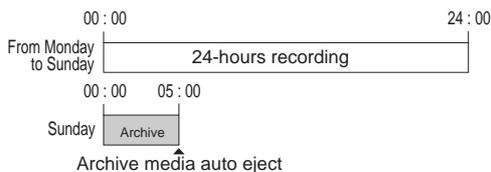continues to record current images. The unit records one field per second and IMAGE QUALITY is set to "BASIC", a recording rate of one field per 16 seconds for each camera.


```
          00 : 00                          24 : 00
From Monday  ┌──────────────────────────────┐
to Sunday    │      24-hours recording      │
             └──────────────────────────────┘
          00 : 00  05 : 00
Sunday       ┌─────────┐
             │ Archive │
             └─────────┘
       Archive media auto eject
```

Settings

1) Record settings are made as follows.
   - **Set IMAGE QUALITY to "BASIC".**

```
<NORMAL REC SETTING>
▶IMAGE QUALITY      BASIC
 MAX REC FIELDS        1F
 SELECT REC MODE      (A)
 DEFINE GROUP SETTING



<ESTD TIME>    48D21H31M
```

➡ The capability to record continuously over a one-week period is dependent on the settings for IMAGE QUALITY and MAX REC FIELDS. For details on the relationship between intervals and image quality, refer to "Recording time table" on page 81.
- **Set MAX REC FIELDS to "1F".**
- **Set HDD FULL to "REPEAT".**

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL           REPEAT
 HDD PB REPEAT        STOP
 ARCHIVE OVERWRITE    OFF
```

2) Camera settings and camera title settings are made as follows.
   - **Make the settings for the 16 cameras listed under (A) on the <DEFINE GROUP SETTING> menu.**

```
<DEFINE GROUP>         (A)
CH PRI FILD   CH PRI FILD
▶① 1   0.09    ⑨ 1   0.09
 ② 1   0.09   ⑩ 1   0.09
 ③ 1   0.09   ⑪ 1   0.09
 ④ 1   0.09   ⑫ 1   0.09
 ⑤ 1   0.09   ⑬ 1   0.09
 ⑥ 1   0.09   ⑭ 1   0.09
 ⑦ 1   0.09   ⑮ 1   0.09
 ⑧ 1   0.09   ⑯ 1   0.09
```

The number of cameras used in each of the operational modes A, B, C can be adjusted. Refer to page 13 for details.

```
<CAMERA TITLE>
CH  TITLE
▶① ENTRANCE........
 ② ATM1............
 ③ ATM2............
 ④ COUNTER1........
 ⑤ COUNTER2........
 ⑥ COUNTER3........
 ⑦ VAULT...........
 ⑧ EXIT............
```

3) Enter the following settings under P1 on the <TIMER PROGRAM> menu:
- **In Timer programming number 1, set the action to "A– 1" for the daily start time of 00:00 to the next day's end time of 00:00. (This setting activates, for all of the cameras in operational mode A, a recording rate of one frame per second.)**
- **In Timer programming number 2, set the action to "EJECT" for Sunday's start time of 00:00 to end time of 05:00.**

```
<TIMER PROGRAM>        P1
  DW  START  END    MODE
▶ DAY 00:00•00:00 A– 1
2 SUN 00:00 05:00 EJECT
3 --- --:-- --:-- ------
4 --- --:-- --:-- ------
```

➡ The symbol "●" will appear between the start-time and end-time columns. This symbol indicates that recording will continue until the following day.

INFORMATION

"SKIP": This is set when timer recording is to be paused temporarily. Then the power will be switched off and the specified time period for that program number will not be recorded.

"POWER": During the specified time, the power supply is stopped in "ON" condition. This is used for execution of alarm recording during timer reservation.

"ARC"(ARCHIVE): The recording contents of the HDD are backed up to the backup device.

"EJECT": After backup of the recording contents of the HDD to the backup device, the medium is ejected automatically.

INFORMATION Non-regular recording mode can be set using the P2 operational mode in the <TIMER PROGRAM> menu. Once these settings are entered, the system can be switched between regular and non-regular operational modes.

4) Set the Timer Program's operational mode to P1.

Upon completing the above settings, press the TIMER REC button. The unit will be in timer recording stand-by mode.

■ Operation example 2: Endless Repeat recording

Copies and backups of up to 3 days' of recorded data can be made when the unit is running in continuous recording mode. (Refer to page 60 for details on copying.)

System configuration
Example of a system using the following peripherals:
- **16 connected video cameras**
- **Archive device connected to ID4 or copying device connected to ID5**
- **Monitor**

Monitor ···(Up to 16 cameras)

ID4: archive device
ID5: copy device
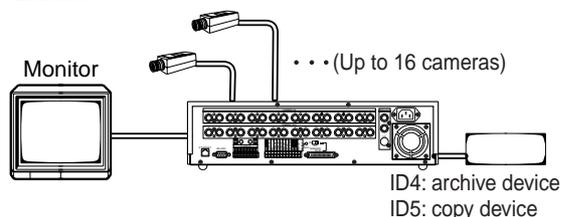
Images from each cameras are recorded 24 hours a day.

- **Set IMAGE QUALITY to "HIGH".**
- **Set MAX REC FIELDS to "2.5F".**

```
<NORMAL REC SETTING>
 IMAGE QUALITY      HIGH
▶MAX REC FIELDS     2.5F
 SELECT REC MODE     (A)
 DEFINE GROUP SETTING



<ESTD TIME>     7D16H 9M
```

- **Set HDD FULL to "REPEAT".**

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL          REPEAT
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE    OFF
```

Upon completing the above settings, press the unit's REC button to initiate continuous recording operation.

♦ Making copies as needed
To copy segments of recorded data while the unit is running in continuous recording mode, follow the steps below:

• Change the automatic copy range setting to MANUAL, and enter the desired start-time and end-time of the data to be copied. (Refer to page 60.)

♦ Making backups as needed
To make backups, while the unit is running in continuous recording mode, of portions of the total data stored in the unit's hard disk, load the appropriate medium into the archive device and press the ARCHIVE button.
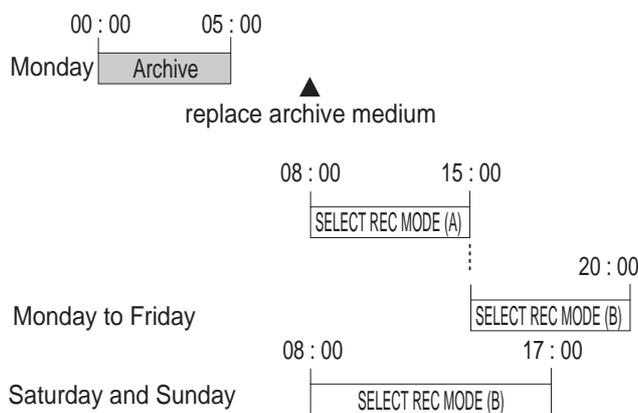
■ Operation example 3
Cameras can differ between operational modes A and B, and you may specify which set of cameras goes into effect at what time and/or on which day(s). Recording intervals(IMAGE QUALITY) can be reduced when the number of operational cameras is large, and recording intervals can be increased when using fewer cameras.

System configuration
Settings are entered so that the backups are created every Monday morning between 00:00 and 05:00. To facilitate the exchange of the storage medium after the backup has been completed, MODE is set to "EJECT".

Cameras in SELECT REC MODE (A) are set to operate from 08:00 to 15:00 on Monday through Friday. Cameras in SELECT REC MODE (B) are set to operate from 15:00 to 20:00 on these same days.

Cameras in SELECT REC MODE (B) are set to operate from 08:00 to 17:00 on Saturday and Sunday. The overall schedule is as shown in the following chart.

```
    00 : 00        05 : 00
Monday  [ Archive ]
                        ▲
            replace archive medium

              08 : 00        15 : 00
              [ SELECT REC MODE (A) ]
                                    20 : 00
                            [ SELECT REC MODE (B) ]
Monday to Friday
              08 : 00            17 : 00
Saturday and Sunday  [ SELECT REC MODE (B) ]
```

Settings
1) Settings for NORMAL REC SETTING are made as follows.
- **Set IMAGE QUALITY to "STANDARD".**
- **Set MAX REC FIELDS to "1F".**
- **Set HDD FULL to "REPEAT".**

2) Camera settings and camera title settings are made as follows. (Refer to page 45.)
- **Set cameras ① through ⑨ to operational mode A.**

```
<DEFINE GROUP>          (A)
CH PRI FILD   CH PRI FILD
▶①  2  0.08  ⑨  1  0.17
 ②  1  0.17  ⑩  -
 ③  1  0.17  ⑪  -
 ④  1  0.17  ⑫  -
 ⑤  1  0.17  ⑬  -
 ⑥  1  0.17  ⑭  -
 ⑦  3  0.05  ⑮  -
 ⑧  2  0.08  ⑯  -
```

- **Set cameras ①,②,③,⑧,⑨,⑫ and ⑭ to operational mode B.**

```
<DEFINE GROUP>          (B)
CH PRI FILD   CH PRI FILD
▶①  2  0.11  ⑨  1  0.22
 ②  1  0.22  ⑩  -
 ③  1  0.22  ⑪  -
 ④  -        ⑫  1  0.22
 ⑤  -        ⑬  -
 ⑥  -        ⑭  1  0.22
 ⑦  -        ⑮  -
 ⑧  2  0.11  ⑯  -
```

3) Settings for TIMER PROGRAM are made as follows.

• Designate Monday to Friday as the days of operation (SPECIAL DW). Then, in Program #1, set the action (MODE) to "A– 1" for 08:00 to 15:00 on the designated days(SPL).
• In Program #2, set the action to "B– 1" for 15:00 to 20:00 on the designated days.
• In Program #3, set the action to "B– 1" for 08:00 to 17:00 on Saturday.
• In Program #4, set the action to "B– 1" for 08:00 to 17:00 on Sunday.
• In Program #5, set the action to "EJECT" for Sunday's start-time of 00:00 to end-time of 05:00.

Upon completing the above settings, press the unit's TIMER REC button to initiate Timer operation.
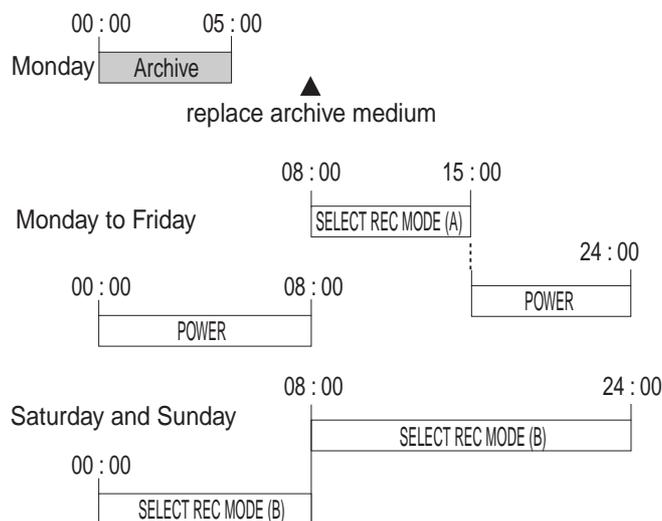
■ Operation example 4

This is an operation example of a Timer setting that combines NORMAL REC with Alarm Recording using MOTION DETECTION.

System configuration

Settings are entered so that the backups are created every Monday morning between 00:00 and 05:00. To facilitate the exchange of the storage medium after the backup has been completed, MODE is set to "EJECT".

Cameras in SELECT REC MODE (A) are set to operate from 08:00 to 15:00 on Monday through Friday. Set the unit on POWER from 15:00 to 08:00 the next morning.

Cameras in SELECT REC MODE (B) are set to operate from 08:00 to next day 08:00 on Saturday and Sunday. The overall schedule is as shown in the following chart.

```
        00 : 00        05 : 00
Monday  | Archive |
                    ▲
           replace archive medium

                    08 : 00        15 : 00
                    | SELECT REC MODE (A) |
Monday to Friday                             24 : 00
  00 : 00        08 : 00           | POWER |
  | POWER |

                    08 : 00               24 : 00
                    | SELECT REC MODE (B) |
Saturday and Sunday
  00 : 00
  | SELECT REC MODE (B) |
```

Settings

1) Enter the same settings for the camera operation setting A as those for operation example 3 in the following: the CAMERA TITLE setting (on the <MPX DISPLAY> menu), DEFINE GROUP SETTING (on the <NORMAL REC SETTING> menu), and recording conditions. Set the power setting that uses MOTION DETECTION as follows.

• Set IMAGE QUALITY to "HIGH".
• Set MAX REC FIELDS to "1F".
• Set A-REC DURATION to "5M".
• Set RECORD ALARM to "ALL".
• Set PRE A-REC to "MEDIUM".

• On the <DEFINE ALARM GROUP> menu, set the cameras ①,②,③,⑧,⑨,⑫ and ⑭.

```
<DEFINE ALARM GROUP>
CH PRI FILD   CH PRI FILD
▶① 2  0.11   ⑨  1  0.22
 ②  1  0.22   ⑩  -
 ③  1  0.22   ⑪  -
 ④  -         ⑫  1  0.22
 ⑤  -         ⑬  -
 ⑥  -         ⑭  1  0.22
 ⑦  -         ⑮  -
 ⑧  2  0.11   ⑯  -
```

2) Settings for MOTION DETECTION SETTING are made as follows.

<u>To make the M-DET SETTING, first turn the MOTION DETECTION setting "ON" in the <INITIAL SET UP> menu.</u>

• Using SELECTION CAMERA NO., set each of the following camera numbers ①, ②, ③, ⑧, ⑨, ⑫ and ⑭ as follows.

• Set CH.MOTION DETECTION to "ON".
• Set SET DETECTION MASK, SENSITIVITY, MOTION THRESHOLD TEST MODE.

```
<MOTION>
▶SELECTION CAMERA NO.   ①

 CH.MOTION DETECTION   ON
 SET DETECTION MASK
 SENSITIVITY          HIGH
 MOTION THRESHOLD        5
 TEST MODE             OFF
```

3) Settings for TIMER PROGRAM are made as follows.

• Select "P1" for the setting "SELECTED PATTERN" in the <TIMER PROGRAM> menu and select "ON" for the setting "REC MODE (POWER)" in the <M-DET APPLICATION> menu.

```
<TIMER PROGRAM>
 SELECTED PATTERN    P1
 DEFINE P1
 DEFINE P2
 DEFINE P3

<M-DET APPLICATION>
 REC MODE (A)       OFF
 REC MODE (B)       OFF
 REC MODE (C)       OFF
▶REC MODE (POWER)    ON
```

• Designate Monday to Friday as the days of operation (SPECIAL DW). Then, in Program #1, set the action (MODE) to "A– 1" for 08:00 to 15:00 on the designated days(SPL).
• In Program #2, set the action to "POWER" for 15:00 to 08:00 the next morning.
• In Program #3, set the action to "POWER" for 08:00 to 08:00 the next morning.
• In Program #4, set the action to "POWER" for 08:00 to 08:00 the next morning.
• In Program #5, set the action to "EJECT" for Sunday's start-time of 00:00 to end-time of 05:00.

Upon completing the above settings, press the unit's TIMER REC button to initiate Timer operation.

Using the Timer

■ Setting the Timer

When using the Timer to initiate Rec operation, the DE-FINE P1 – P3 screens can be used to set different patterns of operation as desired.

➡ Set the date and current time before recording. Refer to page 11 for details on how to set date and time.

Example: Using Program #1 in DEFINE P2, mode A cameras will record at intervals of 25F from 12:00 to 13:00 each day.

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to TIMER PROGRAM then turn the SHUTTLE ring to the right.
   • The <TIMER PROGRAM> menu will appear.

3. Check that the cursor is next to SELECTED PATTERN, then turn the SHUTTLE ring to the right to fix setting.

```
<TIMER PROGRAM>
▶SELECTED PATTERN     P1
 DEFINE P1
 DEFINE P2
 DEFINE P3
```
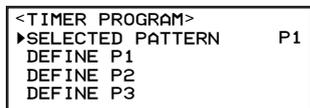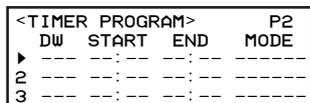
4. Turn the JOG dial to the right to flash P2, then turn the SHUTTLE ring to the right.
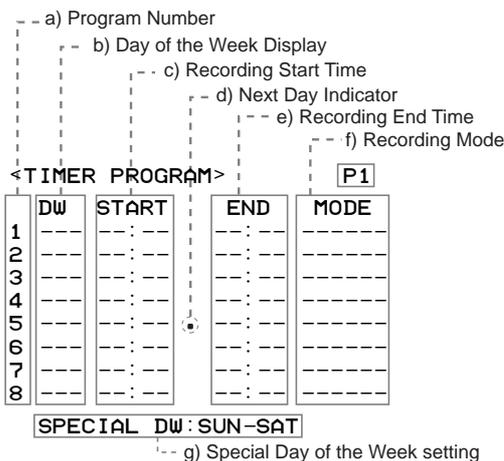   **• Timer program pattern 2 is selected now.**

5. Turn the JOG dial to move the cursor to DEFINE P2 and turn the SHUTTLE ring to the right.
   • The <TIMER PROGRAM> P2 will appear.

```
<TIMER PROGRAM>       P2
 DW  START  END    MODE
▶ ---  --:--  --:--  ------
2 ---  --:--  --:--  ------
3 ---  --:--  --:--  ------
```

TIMER SETTING screen

```
           - - a) Program Number
             - b) Day of the Week Display
               - - c) Recording Start Time
                 - d) Next Day Indicator
                   - - e) Recording End Time
                     - - f) Recording Mode
<TIMER PROGRAM>          P1
   DW  START     END     MODE
1  ---  --:--    --:--    ------
2  ---  --:--    --:--    ------
3  ---  --:--    --:--    ------
4  ---  --:--    --:--    ------
5  ---  --:--    --:--    ------
6  ---  --:--    --:--    ------
7  ---  --:--    --:--    ------
8  ---  --:--    --:--    ------
   SPECIAL DW:SUN-SAT
    - - g) Special Day of the Week setting
```

a) Settings for up to 8 programs can be made per screen.

b) Settings for the DW column include:
   • The days of the week from Monday to Sunday (SUN-SAT).
   • DAY (to record at the same time every day).
   • SPL (to record on the days displayed at the bottom of the screen).

c) Time is displayed in 24-hour format. When settings for recording times overlap, the unit will give priority to the higher-numbered Program.

d) This symbol indicates that recording time overlaps into the following day. Continuous recording is programmed by selecting "DAY" in the DW column and entering the same time in both the start-time and end-time settings.

e) Display of the program's end-time.

f) Display of the selected setting for recording interval.

g) Display of the user-specified days for a program. When "SPL" is selected in the DW column, the unit will initiate the program on the days specified.

6. Check to see that the cursor is on Program #1, then turn the SHUTTLE ring to the right to select the DW column.

```
<TIMER PROGRAM>       P2
 DW  START  END    MODE
▶ ---  --:--  --:--  ------
2 ---  --:--  --:--  ------
3 ---  --:--  --:--  ------
```
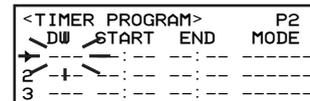
7. Turn the JOG dial until "DAY" is displayed on-screen, then turn the SHUTTLE ring clockwise to complete this setting.
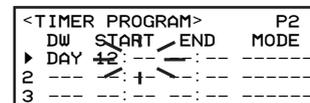   **• The cursor will move to the start-time column.**

```
<TIMER PROGRAM>       P2
 DW  START  END    MODE
▶ DAY  --:--  --:--  ------
2 ---  --:--  --:--  ------
3 ---  --:--  --:--  ------
```
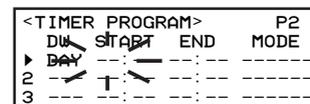
➡ If the wrong day has been selected, turn the SHUTTLE ring counterclockwise to return to the Day of the week(DW) column. Use the JOG dial to correct the entry, then once again turn the SHUTTLE ring clockwise to complete this setting.
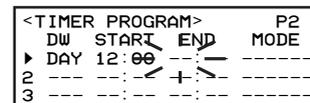
8. Use the JOG dial to select "12" in the hour column, then turn the SHUTTLE ring to the right to complete this setting.
   • The cursor will move to the left half of the minutes column.

```
<TIMER PROGRAM>       P2
 DW  START  END    MODE
▶ DAY 12:--  --:--  ------
2 ---  --:--  --:--  ------
3 ---  --:--  --:--  ------
```

9. Use the JOG dial to select "00" in the minutes column, then turn the SHUTTLE ring clockwise to complete this setting.
   • The cursor will move to the right half of the minutes column. Using this same process, complete the setting for the program's end-time.

```
<TIMER PROGRAM>       P2
 DW  START  END    MODE
▶ DAY 12:00  --:--  ------
2 ---  --:--  --:--  ------
3 ---  --:--  --:--  ------
```

10. Set the MODE column.
   • The first field is for selecting the camera mode(A, B or C). Use the JOG dial to select "A–", and turn the SHUTTLE ring clockwise to complete this setting.
   • The next field is for setting the MAX REC FIELDS. Use the JOG dial to select the desired interval, then turn the SHUTTLE ring clockwise to complete this setting.

```
<TIMER PROGRAM>       P2
 DW  START  END    MODE
▶ DAY 12:00 13:00 A-  25
2 ---  --:--  --:--  ------
3 ---  --:--  --:--  ------
```
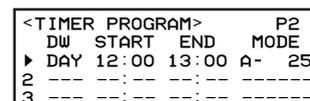
➡ For effective multiplication, various settings for operational cameras and recording intervals can be selected in the Action fields. Refer to page 14 for details on DEFINE GROUP SETTING.

➡ If entries for one or more fields in a program are left empty, the cursor will return to the DW column. complete the program setting.

11. To set other programs, repeat steps 5 through 10.
  • **Up to 8 programs can be set per screen.**
  • **To erase a program entry, press the "WARNING RESET" button during the programming procedure.**

12. Turn the SHUTTLE ring to the right or press the SET UP button.
  • **Turning the SHUTTLE ring to the left moves the cursor to the previous entry. Pressing the SET UP button closes the <TIMER PROGRAM> menu.**

13. Press the TIMER REC button.
  • **The TIMER REC indicator illuminate.**
  • **If the current time is covered by a program, the unit will begin recording immediately.**
  • **If the current time is not covered by a program, the unit will turn the power off and go into stand-by mode.**
  • **Operation can be shut down completely by pressing the TIMER REC button once more.**

Other settings

"SKIP": This is set when timer recording is to be paused temporarily. Then the power will be switched off and the specified time period for that program number will not be recorded.

"POWER": During the specified time, the power supply is stopped in "ON" condition. This is used for execution of alarm recording during timer reservation.

"ARC"(ARCHIVE): The recording contents of the HDD are backed up to the backup device.

"EJECT": After backup of the recording contents of the HDD to the backup device, the medium is ejected automatically.

⚠ Estimating recording when using the Timer
Please note when using the Timer that there may be instances where, because of max recording fields, image quality, there is insufficient recording space on the unit's hard disk drive to complete the Timer recording as programmed.

➡ Please note that when the max recording fields setting differs on the NORMAL REC SETTING screen and TIMER PROGRAM screen, its possible recording duration will differ from the duration displayed in ESTD TIME on the NORMAL REC SETTING screen.

When setting the Timer for multiple programs, please refer to the Recording Time table on page 81 to confirm the amount of hard disk space the recording duration will take up under different setting conditions.

```
<TIMER PROGRAM>      P2
  DW  START  END   MODE
1 DAY 12:00 13:00 A-  25
▶ DAY 16:00 22:00 A-12.5
3 --- --:-- --:-- ------
```

Using the Timer setting as an example of estimating possible recording duration, the chart on next column shows that everything is recorded on the 4th day, and on the 5th day only remain 7.8% of Program 2 content is recorded on the hard disk drive. (Conditions ; Image Quality is set to "HIGH", built-in 60GB hard disk drive.)

Program	Recording time for one day (A)	Possible duration for Consecutive Recording (B)	HDD recording space (A/B)
1	60 minutes	1104 minutes	5.4%
2	360 minutes	2209 minutes	16.3%

♦ Setting SPECIAL DW (special day of the week)
By entering a program's start-day and end-day, the unit can be set to record during a specific time frame over any number of days in the week. The unit will record on the days entered into the program which displays "SPL" in its DW column.

Example: MON - FRI are designated as the days used in DEFINE P1.

➡ The settings for the start-day and the end-day cannot be identical.

1. Press the SET UP button to display the <MENU SETTING> menu. Turn the JOG dial to move the cursor to TIMER PROGRAM then turn the SHUTTLE ring to the right.
  • **The <TIMER PROGRAM> menu will appear.**

2. Turn the JOG dial to move the cursor to DEFINE P1 then turn the SHUTTLE ring to the right to display the <TIMER PROGRAM> menu of P1.

```
<TIMER PROGRAM>
 SELECTED PATTERN    P1
▶DEFINE P1
 DEFINE P2
 DEFINE P3
```

3. Turn the JOG dial to move the cursor to select "SPECIAL DW", then turn the SHUTTLE ring to the right.

```
7 SPL 12:00 13:00 A-  25
8 DAY 13:00 14:25 B-   1
▶ SPECIAL DW:TUE-FRI
```

4. Turn the JOG dial to select "MON" then turn the SHUTTLE ring to the right.

```
7 SPL 12:00 13:00 A-  25
8 DAY 13:00 14:25 B-   1
▶ SPECIAL DW:MON-FRI
```

5. Turn the JOG dial to select "FRI" then turn the SHUTTLE ring to the right.
  • **The flashing will stop.**

```
7 SPL 12:00 13:00 A-  25
8 DAY 13:00 14:25 B-   1
▶ SPECIAL DW:MON-FRI
```

6. Press the TIMER REC button.
  • **The TIMER REC indicator will illuminate.**
  • **If the current time is covered by a program, the unit will begin recording immediately.**
  • **If the current time is not covered by a program, the unit will turn the power off and go into stand-by mode.**
  • **Operation can be shut down completely by pressing the TIMER REC button once more.**

The unit will not record if there is an error in Timer settings. The following provides a list of measures for dealing with errors in Timer settings.

Symptom 1)
The TIMER REC indicator is flashing. The buzzer sounds if the BUZZER setting is set to WRNG.

Reason for Error
1) The present time or the Timer is not set.
2) The timer program has been made on <TIMER PRO-GRAM> page, but the correct SELECTED PATTERN is not selected on the <TIMER PROGRAM> menu.
3) Menu setting is not yet completed.

Countermeasure
1) Set the correct present time (page 11).
2) Select the correct SELECTED PATTERN (page 50).
3) Complete the menu setting.

Symptom 2)
The Timer recording would not start even when the time is ready for timer recording.

Reason for Error
1) HDD FULL setting on the <INITIAL SET UP> menu is set to "STOP" or "ALARM•PROT".

Countermeasure
1) Set the HDD FULL to other settings except "STOP" or "ALARM•PROT" (pages 30,54).

Symptom 3)
The Timer backup would not start even when the time is ready for timer backup.

Reason for Error
1) The medium of the peripheral device.

Countermeasure
1) Insert the new medium and press the WARNING RE-SET button to erase warning on screen. Press the TIMER REC button to release the timer, then press the TIMER REC button again.
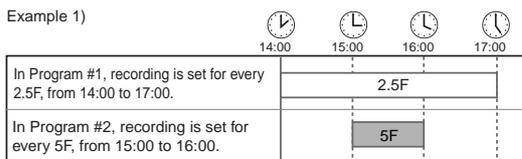
♦ Overlapping Timer settings
When Timer settings overlap, the unit will give priority to the higher-numbered program.
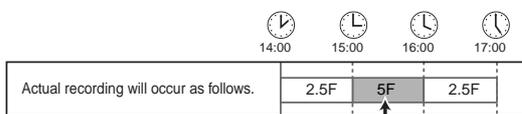
Example #1
• Program #1 is set for 14:00 to 17:00 with a recording interval of 2.5F.
• Program #2 is set for 15:00 to 16:00 with recording interval of 5F.

Under this condition, the unit will give priority to Program #2 for the duration of the overlapping period, from 15:00 to 16:00. The unit will operate as shown in the chart below.

Example 1)

	14:00	15:00	16:00	17:00
In Program #1, recording is set for every 2.5F, from 14:00 to 17:00.			2.5F	
In Program #2, recording is set for every 5F, from 15:00 to 16:00.		5F		

In this situation, the unit gives priority to the higher-numbered Program #2.

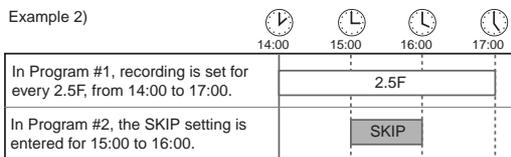|	14:00	15:00	16:00	17:00
Actual recording will occur as follows.	2.5F	5F	2.5F	

Setting for the prioritized Program #2.

Example #2
• Program #1 is set for 14:00 to 17:00 with a recording interval of 2.5F.
• Program #2 is set for 15:00 to 16:00 with the SKIP setting.

Again, the unit will give priority to Program #2 for the duration of the overlapping period. As shown in the illustration below, the unit will activate the Skip setting from 15:00 to 16:00.

Example 2)

	14:00	15:00	16:00	17:00
In Program #1, recording is set for every 2.5F, from 14:00 to 17:00.			2.5F	
In Program #2, the SKIP setting is entered for 15:00 to 16:00.		SKIP		

In this situation, the unit gives priority to the higher-numbered Program #2.

	14:00	15:00	16:00	17:00
Actual recording	2.5F	NO RECORDING!	2.5F	

Setting for the prioritized Program #2.

➡ If TIMER REC is used while the unit is operating under the PRE A-REC setting, the unit will record images using the conditions established in the PRE A-REC setting even if there is no ALARM signal at the start of recording.

♦ M-DET APPLICATION setting
When a timer reservation is made while the motion detection function is effective, the operation of the motion detection function during execution of timer reservation can be set individually by camera operation and energization state.
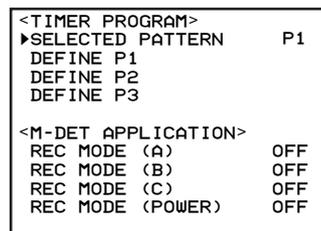
➡ When "POWER" has been selected as the operation setting in the <TIMER PROGRAM> menu, the effectiveness of the execution of the motion detection function during the specified time in power ON state is set.

Example: Set "ON" as the <M-DET APPLICATION> setting in regard to REC MODE (A).(the default setting is "OFF").

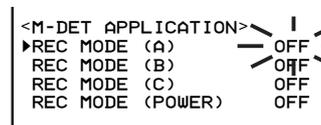*1. Press the SET UP button to display the <MENU SETTING> menu.*

2. Move the cursor (▶) to TIMER PROGRAM then turn the SHUTTLE ring to the right.
 • **The <TIMER PROGRAM> menu will appear.**

```
<TIMER PROGRAM>
▶SELECTED PATTERN      P1
 DEFINE P1
 DEFINE P2
 DEFINE P3

<M-DET APPLICATION>
 REC MODE (A)          OFF
 REC MODE (B)          OFF
 REC MODE (C)          OFF
 REC MODE (POWER)      OFF
```

3. Turn the JOG dial to move the cursor to M-DET APPLICATION and turn the SHUTTLE ring to the right.
 • **The sub-item flashes.**

```
<M-DET APPLICATION>
▶REC MODE (A)          OFF
 REC MODE (B)          OFF
 REC MODE (C)          OFF
 REC MODE (POWER)      OFF
```

4. Turn the JOG dial until "ON" flashes and turn the SHUTTLE ring to the right.
  • **The sub-item stops flashing.**

```
<M-DET APPLICATION>
▶REC MODE (A)        ON
 REC MODE (B)        OFF
 REC MODE (C)        OFF
 REC MODE (POWER)    OFF
```

5. Turn the SHUTTLE ring to the left or press the SET UP button.
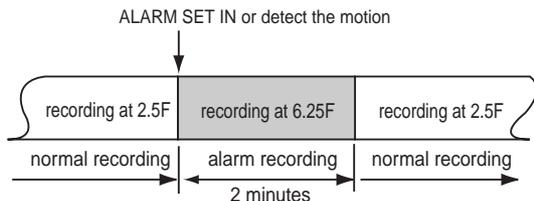
■ Alarm Recording

When an alarm sensor connected to the ALARM IN terminal is triggered or the MOTION DETECTION function detect the motion, the unit will switch to the interval setting established for Alarm Recording.

➡ When running in Alarm Recording mode, the unit will continue to record for the entire Alarm Recording duration even if the end-time specified in a Timer Program has been exceeded. Refer to page 35.

♦ Alarm Recording operation

When the ALARM IN terminal is triggered or the MOTION DETECTION function detect the motion during normal operation, the unit will respond as shown in the illustration below.

Example: The unit is programmed for 2.5F recording intervals, and Alarm Recording is set at intervals of 6.25F and for a duration of 2 minutes.
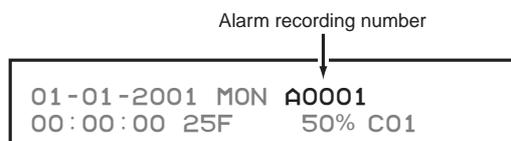
ALARM SET IN or detect the motion

recording at 2.5F	recording at 6.25F	recording at 2.5F
normal recording	alarm recording	normal recording

2 minutes

♦ Setting Alarm Recording

For details of the setting please refer to page 35.

♦ Operations during Alarm Recording

1) An index signal will automatically be stored in memory when Alarm Recording begins.

Alarm recording number

```
01-01-2001 MON A0001
00:00:00 25F     50% C01
```

2) If the unit receives a new alarm signal or detect the motion while running in Alarm Recording mode, the unit will complete the Alarm Recording session initiated by the new signal.

3) If the unit receives an alarm signal while settings are being made on the on-screen menus, the unit will exit the menu screen and begin Alarm Recording.

♦ Alarm Recording time indicators

When Alarm Recording is started, the unit will store the date and time it receives the alarm signal. To access this data, press the SEARCH button to call-up the <SEARCH SELECTION> menu and select ALARM LIST SEARCH. Use the JOG dial to move the cursor to the desired entry,

and turn the SHUTTLE ring to retrieve the entry. (Refer to page 58 for details on "Alarm List Search".)

➡ In addition, when the MOTION DETECTION setting on the <INITIAL SET UP> menu is set to "ON", please note that "MAN" cannot be selected for the Alarm Recording time.

1) Alarm Recording start-times can be registered up to 800 times. After the 800th time, the first start-time will be erased and the 801st start-time will be added to the list.

2) As an index signal is also automatically stored at the beginning of Alarm Recording, the Alarm Recording start-time can also be retrieved using INDEX SEARCH. (Refer to page 57 for details on "Index Search".)

♦ Alarm Recording indicators

1) If the DISPLAY MODE is set for values other than 5 or 6, an Alarm Recordings count will automatically appear on-screen while the unit is running in Alarm Recording mode. (Refer to page 25 for details on DISPLAY MODE.)

2) The Alarm Recording indicator will flash on and off during Alarm Recording, and will stay on at the completion of Alarm Recording.

➡ If the Alarm recording was made even once, the ALARM REC indicator would stay illuminating.

3) The Alarm Recording counter has a maximum of 9999. When this figure is exceeded, the count will return to 0001.

♦ Operation after Alarm Recording

1) At the end of Alarm Recording, the unit will return to the same recording intervals which were in effect before the activation of Alarm Recording.

♦ Indexing Alarm Recording time

When the RECORD ALARM on the <A-REC/M-DET SETTING> menu is set to "SEP", the index signal small number will be included at the top of the entry for the designated camera.

♦ Alarm recording cameras

Please refer to "Camera Alarm Rec setting" on page 37 for details.

Various recordings

■ Basic recording

Please refer to "Basic recording" on page 12 for details.

■ Pre-alarm Recording

When Alarm Recording is in effect, the unit is also able record images taken a few seconds before the ALARM IN terminal is triggered or the MOTION DETECTION function detect the motion.

Records data on HDD before alarm is input.
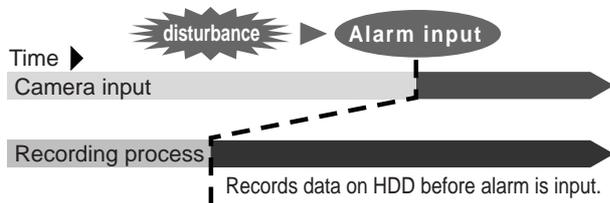
• Images captured prior to the ALARM IN terminal being triggered or the motion detected will be recorded.

➡ The duration of the Pre-alarm Recording will vary according to the setting of Pre-alarm Recording. The duration of the recording may be changed depending on such factors as the recording fields and Image quality.

• When Pre-Alarm Recording has been set, all the cameras designated under DEFINE GROUP SETTING in the <A-REC/M-DET SETTING> menu will execute this function. After the alarm is triggered, only the channels using cameras selected in the RECORD ALARM setting will be recorded. Because of this, when the RECORD ALARM is set to "SEP", the number of recording cameras used in pre-alarm and post-alarm recording will differ, and the recording intervals between the two stages will also differ during playback.

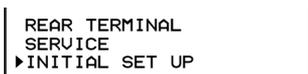The Pre-alarm Recording function can also be used with Timer operation.

1. Set the action in TIMER PROGRAM to POWER.

2. Follow the procedure described in Pre-Alarm recording on page 37 to make necessary settings for pre-alarm recording.

3. Press the TIMER REC button.
   • **Pre-alarm stand-by mode will start when time is ready.**

4. Activate the ALARM IN terminal or detect the motion.
   • **Pre-alarm Recording will start automatically.**

■ Repeat Recording
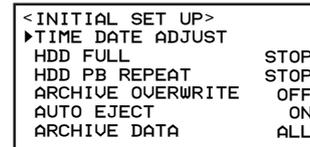
When HDD FULL is selected in the <INITIAL SET UP> menu, it is possible to specify the unit function when its HDD becomes full. By selecting "REPEAT" in the HDD FULL setting, the unit will continue to record by automatically over-writing the data on its hard disk.
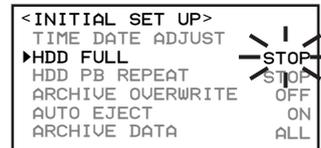
Example: "REPEAT" is selected in the HDD FULL setting.

1. Press the SET UP button to display the <MENU SETTING> menu.

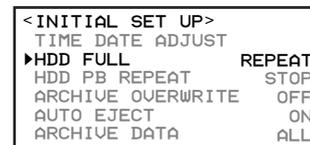*2. Turn the JOG dial to move the cursor (▶) to INITIAL SET UP.*

```
 REAR TERMINAL
 SERVICE
▶INITIAL SET UP
```

3. Turn the SHUTTLE ring to the right to display the <INITIAL SET UP > menu.

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL          STOP
 HDD PB REPEAT     STOP
 ARCHIVE OVERWRITE  OFF
 AUTO EJECT         ON
 ARCHIVE DATA      ALL
```

4. Turn the JOG dial to move the cursor to HDD FULL, then turn the SHUTTLE ring to the right to flash the sub- item.

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL         —STOP—
 HDD PB REPEAT     STOP
 ARCHIVE OVERWRITE  OFF
 AUTO EJECT         ON
 ARCHIVE DATA      ALL
```

5. Turn the JOG dial till REPEAT appears. Turn the SHUTTLE ring to the right to fix setting.
   • **The sub-item will stop flashing.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL         REPEAT
 HDD PB REPEAT     STOP
 ARCHIVE OVERWRITE  OFF
 AUTO EJECT         ON
 ARCHIVE DATA      ALL
```

6. Turn the SHUTTLE ring to the right or press the SET UP button.

♦ **Operation when the hard disk drive becomes full**
"STOP": The unit will stop recording at the moment the hard disk becomes full, and will display the HDD FULL message on the monitor. When WRNG is entered as the BUZZER value (found in the <REAR TERMINAL> menu), the buzzer will also be activated. The unit will stop recording when there is no more storage space in memory. When the CALL OUT setting in the <REAR TERMINAL> menu set to something other than "NONE", a CALL OUT signal will be emitted from the CALL OUT terminal. To restart over-writing on the hard disk, first press the WARNING RESET button to cancel HDD FULL, and then press the REC button.

"REC•STANDBY"(Recording standby): The unit stops recording at the moment its hard disk becomes full. The unit will begin recording by over-writing on its hard disk when the unit receives an alarm signal or a REC terminal signal, or when the REC button is pushed.

"REPEAT": When the disk reaches its end during recording, the recording starts again from the beginning of the disk.

"ALARM•PROT"(Alarm protection): Protects all / any Alarm Recording, the unit will stop recording the moment its hard disk becomes full and will display the HDD FULL message on the monitor. When WRNG is entered as the BUZZER value (found in the <REAR TERMINAL> menu), the buzzer will also be activated. When the CALL OUT setting in the <REAR TERMINAL> menu set to something other than "NONE", a CALL OUT signal will be emitted from the CALL OUT terminal. If there are no instances of Alarm Recording during recording, the unit will continue recording by automatically over-writing all its information on the hard disk.

■ Series Recording

By connecting multiple units as show in the chart below and selecting REC•STANDBY in the HDD Repeat Recording setting, this unit can perform Series Recording. In Series Recording, when the first unit's hard disk has become full, the second unit automatically begins recording.

### *System configuration (using two units)*

First Unit   Second Unit
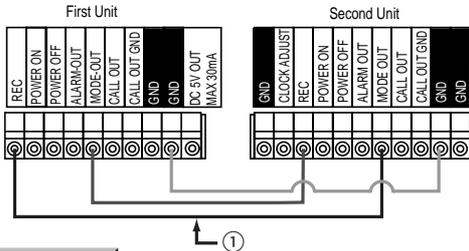
INFORMATION In this example, when the first unit's hard disk reaches its maximum storage capacity, the second unit will begin recording; when the second unit's hard disk reaches its maximum storage capacity, the first unit will begin recording by over-writing its hard disk. If you do not want the first unit to begin the over-writing process, then please you don't connect the connection ①.

INFORMATION Through use of the CALL OUT terminal, settings can be made so that a second unit begins recording in the event that something goes wrong with the recorder and it cannot continue recording.

First Unit   Second Unit
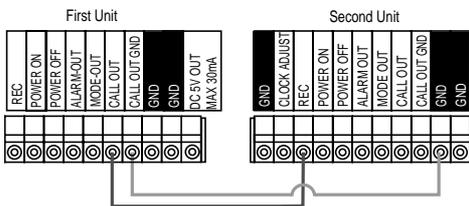
Something goes wrong with the recorder

| Operation of unit #1 | Recording | |
| Operation of unit #2 | | Recording |

♦ Series Recording menu settings (for both units)
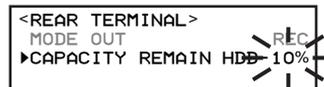
1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to the REAR TERMINAL then turn the SHUTTLE ring to the right.

```
<REAR TERMINAL>
▶MODE OUT          REC
 CAPACITY REMAIN HDD-10%
```

3. Turn the JOG dial to move the cursor to CAPACITY REMAIN then turn the SHUTTLE ring to the right.
   • **The sub-item will start flashing.**

```
<REAR TERMINAL>
 MODE OUT          REC
▶CAPACITY REMAIN HDD-10%
```
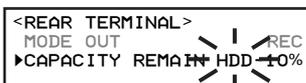
4. Check that the "HDD" is flashing. Turn the SHUTTLE ring to the right.
   • **Choose the HDD so that the second unit begins recording when the first unit's hard disk approaches its storage limit.**
   • **The flashing will move to capacity setting.**

```
<REAR TERMINAL>
 MODE OUT          REC
▶CAPACITY REMAIN HDD-10%
```

5. Turn the JOG dial till desired capacity remain appears and then turn the SHUTTLE ring to the right.
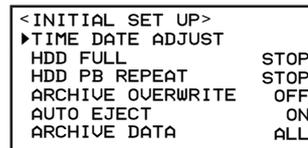   • **The sub-item will stop flashing.**

```
<REAR TERMINAL>
 MODE OUT          REC
▶CAPACITY REMAIN HDD-10%
```

6. Turn the JOG dial to move the cursor to MODE OUT and turn the SHUTTLE ring to the right.
   • **The sub-item will start flashing.**

```
<REAR TERMINAL>
▶MODE OUT          REC
 CAPACITY REMAIN HDD-10%
```

7. Turn the JOG dial to flash "REMAIN"and turn the SHUTTLE ring to the right.
   • **The sub-item will stop flashing.**

```
<REAR TERMINAL>
▶MODE OUT       REMAIN
 CAPACITY REMAIN HDD-10%
```

8. Display the <INITIAL SET UP> menu.
   • **Press the SET UP button to display the <MENU SETTING> menu. Move the cursor to INITIAL SET UP and turn the SHUTTLE ring to the right.**

```
<INITIAL SET UP>
▶TIME DATE ADJUST
 HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE   OFF
 AUTO EJECT          ON
 ARCHIVE DATA        ALL
```

9. Turn the JOG dial to move the cursor to HDD FULL and turn the SHUTTLE ring to the right.
   • **The sub-item will start flashing.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL            STOP
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE   OFF
 AUTO EJECT          ON
 ARCHIVE DATA        ALL
```
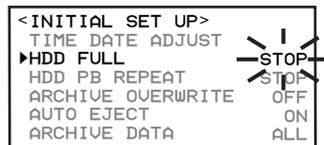
10. Turn the JOG dial to display REC•STANDBY and turn the SHUTTLE ring to the right.
   • **The sub-item will stop flashing.**

```
<INITIAL SET UP>
 TIME DATE ADJUST
▶HDD FULL    REC•STANDBY
 HDD PB REPEAT       STOP
 ARCHIVE OVERWRITE   OFF
 AUTO EJECT          ON
 ARCHIVE DATA        ALL
```
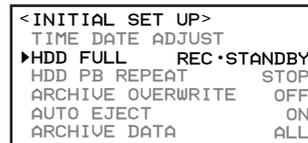
11. Turn the SHUTTLE ring to the left or press the SET UP button.

♦ Operation during Series Recording

When the storage capacity of the first unit's HDD reaches a pre-specified level, the second unit will begin recording. Conversely, when the second unit's HDD capacity reaches a pre-specified level, the first unit will begin recording. Through this exchange, recording will continue uninterrupted.

••• Operations

55
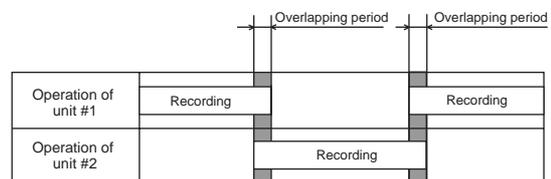
Various playback functions

■ Playing still frames
1. Press the PAUSE button during playback.

• The unit will shift into still frame mode. By pressing the PAUSE button once again, the unit will return to its previous mode.
• By pressing the Camera number button while the still frame is displayed, the unit will search for that channel's images and immediately display them on-screen.

■ Shuttle viewing
The SHUTTLE ring can be used to adjust playback speed to varying rates. Playback speed will vary according to how far the SHUTTLE ring is turned.

1. Press the PAUSE button during playback, and then turn the SHUTTLE ring.

① Reverse speed search (1MB units)
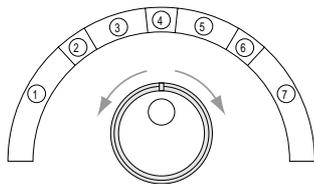② Reverse speed search (skip 5fields)
③ Reverse speed search (skip 3fields)
④ Still frame playback
⑤ Forward speed search (skip 3fields)
⑥ Forward speed search (skip 5fields)
⑦ Forward speed search (1MB units)

➡ The unit will shift to still frame playback mode when the SHUTTLE ring is returned to its former position.

■ Shuttle hold
By pressing the PAUSE button during playback (or reverse playback), the unit will shift into still frame mode. Rotate the SHUTTLE ring in the desired direction and to the desired search speed, then press the PAUSE button while holding the SHUTTLE ring to position. Search speed will be maintained even when the SHUTTLE ring is returned to its original position.

■ Direct shuttle viewing
Direct shuttle playback can be activated by turning the SHUTTLE ring during playback or reverse playback.

1. Turn the SHUTTLE ring during playback.
Please refer to the above diagram for the playback speed.

➡ The unit will shift to regular playback mode when the SHUTTLE ring is returned to its former position.

INFORMATION When playback images recorded at different recording intervals, there may be rare occasions when playback speed differs from the original recording rate.

■ Frame-by-frame playback
1. Turn the JOG dial in either direction during still frame playback.

• Turn the JOG dial to the right to move forward one frame and to the left to move back one frame. Continue turning the JOG dial to the right for forward playback of consecutive frames and to the left for reverse playback of consecutive frames. Stop turning the dial for still frame viewing.
• During frame-by-frame playback in single-screen display mode, playback will lag behind rapid JOG dial rotation because the unit is simultaneously engaged in searching for images in the displayed channel.

■ Reverse playback
1. Press the REV PLAY button when the unit is not in operation.
   • The unit will begin reverse playback.

➡ On the first reverse playback after the power switch is turned on or after recording, the unit will start by displaying the last recorded image.

■ Changing playback intervals
When the PLAY or REV PLAY button is pressed while the unit is in operation, playback will occur at the same intervals as the recorded intervals. Playback intervals can be changed, when the PLAY or REV PLAY button is pressed while the unit is in playback or reverse playback operation.

➡ Playback intervals can be confirmed on-screen by using the single-screen display mode and entering "2" or "3" in the DISPLAY MODE setting of the <TIME DATE DISPLAY> menu.

• Playback or reverse playback intervals are increased up when the PLAY button is pressed, and playback or reverse playback intervals are slowed down when the REV PLAY button is pressed.

INFORMATION This is a convenient function for slow viewing of recordings with fast movement as well as fast playback of images captured at long recording intervals.

■ **High-speed fast-forward/high-speed rewind**

When the SHUTTLE ring is turned clockwise or counter clockwise for over one second during STOP mode, the unit will shift into high-speed fast-forward or high-speed rewind mode, and an indicator will appear at the bottom left of the monitor. "S" denotes the start point of the data stored in the hard disk, and "E" denotes the end point. The vertical line marks the current position.

```
01-01-2001 MON
00:00:00 25F    30% C16




S ┌──┬─────┐E
```
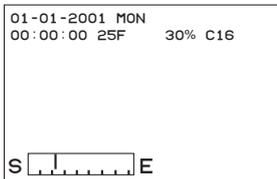
■ **Monitor display settings and playback operation**

• Single screen : The screen will change frame by frame at a rate equal to the recording interval multiplied by the number of cameras used in the recording.

• SPLIT 4 : Each mini-screen will change frame by frame at a rate equal to the recording interval multiplied by the number of cameras used in the recording. The screen display shift to still frame mode during playback from a camera which is not indicated.

• SPLIT 9 : Each mini-screen will change frame by frame at the recorded interval. The screen display shift to still frame mode during playback from a camera which is not indicated.

• SPLIT 16 : Each mini-screen will change frame by frame at the recorded interval. The screen display shift to still frame mode during playback from a camera which is not indicated.

■ **Time date search**

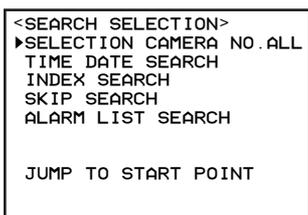Please refer to page 15 for detailed operation.

■ **Index Search**

During Alarm Recording, an index signal will automatically be written onto the hard disk. Index Search is a process of retrieving still frames using their associated index signal to select the camera number.

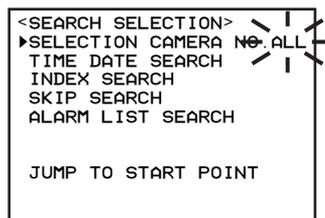➡ The index count can be set, as desired, up to 99.

Example: Enter 10 for the index count, then start a search to select the camera number ⑤.

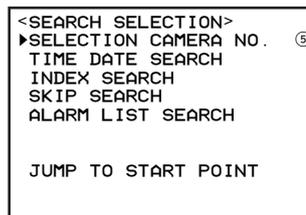*1. Press the SEARCH button to display the <SEARCH SELECTION> menu.*

```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.ALL
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```

2. Make sure that the cursor (▶) is set to the SELECTION CAMERA NO. menu, and turn the SHUTTLE ring to the right.
• The sub-item of SELECTION CAMERA NO. will start flashing.

```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.ALL
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```

3. Turn the JOG dial to display ⑤ then turn the SHUTTLE ring to the right.
• The flashing will stop.

```
<SEARCH SELECTION>
▶SELECTION CAMERA NO.  ⑤
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```

Other settings By turn the JOG dial, the selection camera number will be changed as below :

→ ALL ↔ ① ↔ ② ↔ ③ ↔ ④ ↔ ⑤ ↔ ⑥ ↔ ⑦ ←
→ ⑯ ↔ ⑮ ↔ ⑭ ↔ ⑬ ↔ ⑫ ↔ ⑪ ↔ ⑩ ↔ ⑨ ↔ ⑧ ←

4. Turn the JOG dial to select the INDEX SEARCH, and turn the SHUTTLE ring to the right.
• The <INDEX SEARCH> menu will appear .

```
<SEARCH SELECTION>
 SELECTION CAMERA NO.  ⑤
 TIME DATE SEARCH
▶INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```
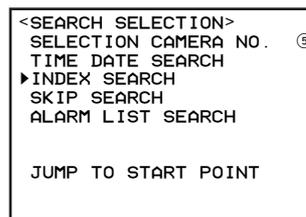
5. Turn the JOG dial to display the desired index count, then turn the SHUTTLE ring to the desired search direction. (Turn right to move forward, turn left to move in reverse.)
• Index Search begins, and the images corresponding to the set index count are displayed either on a SPLIT 16 screen if "ALL" is selected in the SELECTION CAMERA NO. setting, or on a single screen if an individual camera number has been selected.
• The index count will begin blinking if the index signal has not been recorded, i.e., the Index Search will not be executed. Press the SEARCH button and the unit returns to normal playback mode.

```
<INDEX SEARCH>          ⑤

       10

 INPUT INDEX NUMBER
 TURN THE SHUTTLE RING
 << OR >> TO VIEW NEXT
 ALARM.
```
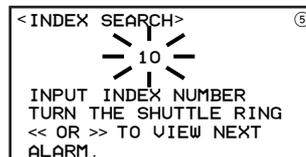
➡ When "ALL" is selected in the setting parameter, switching the search result display from SPLIT 16 screen to the Single screen display for a specific camera number requires the following process. First press the SEARCH button, then delete the <SEARCH SELECTION> menu. Select the camera number by pressing the Camera number buttons on the front of this unit. The selected image will be shown on the Single screen mode.

ⓘ When using DDS tape, index searches can be performed in the forward direction only.

➡ Can not change the display, during the search selection menu will appear.

6. To play back search results.
• **Press either the PLAY button or the PAUSE button.**

➡ Refer to page 56 for details on Various playback functions.

➡ To exit the <INDEX SEARCH> menu without activating the search, press the SEARCH button on the front of the unit.

7. Press the STOP button to stop playback and still frame mode.
• **Press the SEARCH button, the display will revert to its original state.**

♦ How to count index signals
Present time in the diagram below represents the point of playing back or stopped playing back. To search index with "+", turn the SHUTTLE ring to the right to search forward. To search index with "-", turn the SHUTTLE ring to the left to search backward.

A•REC: Alarm Recording   Present position

-15   -2   -1   +1 +2   +15

| A•REC | A•REC | A•REC | | A•REC | A•REC | A•REC |

Beginning of playback device   End of playback device

■ Skip Search
Skip Search is a process where the unit automatically searches for an index signal, then retrieves the visuals associated with that index and plays back the images for 5 seconds each to select the camera number.

➡ To play back search results, press the PLAY button for the desired image.

1. Press the SEARCH button to display by the <SEARCH SELECTION> menu. Setting the <SELECTION CAMERA NO.> menu, repeat the steps 2, 3 of the INDEX SEARCH setting procedures.
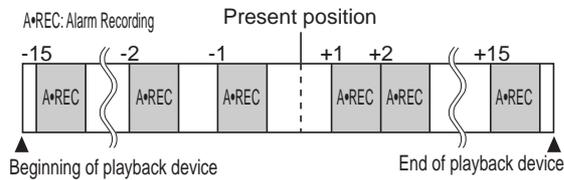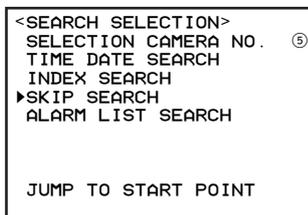
2. Turn the JOG dial to select the SKIP SEARCH, and turn the SHUTTLE ring to the right.
• **The <SKIP SEARCH> menu will appear .**

```
<SEARCH SELECTION>
 SELECTION CAMERA NO.    ⑤
 TIME DATE SEARCH
 INDEX SEARCH
▶SKIP SEARCH
 ALARM LIST SEARCH


 JUMP TO START POINT
```

3. Turn the SHUTTLE ring to desired direction (Forward search to the right and reverse to the left).
• **The unit begins the Index Search, and plays back the images associated to the index for five seconds each. Playback is displayed on a SPLIT 16 screen when "ALL" is selected in the SELECTION CAMERA NO. setting, and displayed on a single screen when an individual camera number is selected.**

```
<SKIP SEARCH>             ⑤

 TURN THE SHUTTLE RING
 << OR >> TO
 PREVIEW EACH ALARM.
```
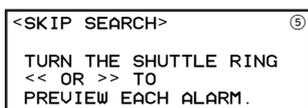
➡ The unit cannot be selected to single screen display mode during Skip Search.

4. Press the STOP button to stop searching.

➡ When reverse SKIP SEARCH is used on recorded content that includes five seconds or less of alarm recording, those five seconds or less of alarm recording may be played back repeatedly. If this happens, press the stop button to halt SKIP SEARCH, use reverse playback to get past the content being played back repeatedly, and then resume with reverse SKIP SEARCH.

■ Alarm List Search
When Alarm Recording is initiated (refer to page 53), the Alarm Recording start time will be added to the Alarm List. Alarm List Search is a process which uses the associated Alarm Recording start time to retrieve a desired image for still frame playback to select the camera number.

➡ Up to 800 Alarm Recording start-times can be registered. After the 800th time, the first start-time will be erased and the 801st start-time will be added to the list.

1. Press the SEARCH button to display by the <SEARCH SELECTION> menu. Setting the <SELECTION CAMERA NO.> menu, repeat the steps 2, 3 of the INDEX SEARCH setting procedures.

2. Turn the JOG dial to select the ALARM LIST SEARCH, and turn the SHUTTLE ring to the right.
• **The <ALARM LIST SEARCH> menu will appear .**

```
<SEARCH SELECTION>
 SELECTION CAMERA NO.    ⑤
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
▶ALARM LIST SEARCH


 JUMP TO START POINT
```
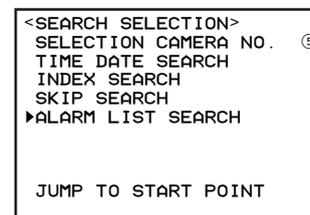
3. Turn the JOG dial till the cursor goes to desired alarm list number, then turn the SHUTTLE ring to the right.
• **The unit begins the Alarm List Search, and retrieves the image associated with the selected time (or the time closest to the selected time).**
• **Playback is displayed on a SPLIT 16 screen when "ALL" is selected in the SELECTION CAMERA NO. setting, and displayed on a single screen when an individual camera number is selected.**

```
<ALARM LIST SEARCH>
 No.   DATE      TIME      C
 0003 26-01-01 18:54:25    ⑤
 0002 26-01-01 18:34:40    ⑤
▶0001 25-01-01 18:20:00    ⑤
```
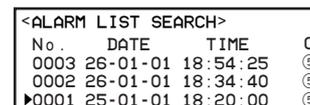
➡ The JOG dial can be used to move the cursor line-by-line through the list. When the cursor reaches either the top or the bottom of the list, the <ALARM LIST SEARCH> menu will scroll to the next page. To move through the pages, place the cursor over "No.", and turn the SHUTTLE ring.

➡ When over-writing data stored on the hard disk drive, the start-time for a given Alarm Recording will be automatically erased from the Alarm List when the image data recorded at the start of that Alarm Recording is over-written.

4. To play back search results.
• **Press either the PLAY button or the PAUSE button.**

5. Press the STOP button to stop playback and still frame mode.
• **Press the SEARCH button, the display will revert to its original state.**

■ Jump to Start point (oldest recording)

A process for finding the start point of oldest recorded data, and delivering that start-point on-screen as a still frame.

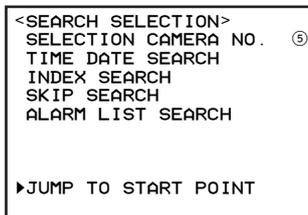*1. Press the SEARCH button to display the <SEARCH SELECTION> menu.*

2. Turn the JOG dial to select the JUMP TO START POINT, and turn the SHUTTLE ring to the right.

```
<SEARCH SELECTION>
 SELECTION CAMERA NO.   ⑤
 TIME DATE SEARCH
 INDEX SEARCH
 SKIP SEARCH
 ALARM LIST SEARCH


▶JUMP TO START POINT
```

3. Turn the SHUTTLE ring to the right when the <JUMP TO START POINT> menu appears.
• **The unit displays the still frames of the 1st part of the recording on a SPLIT 16 screen. For full-screen viewing of a particular frame, press the button of that image's camera number.**

```
<JUMP TO START POINT>

 TURN THE SHUTTLE RING
 >>TO PLAY BACK
 OLDEST RECORDED DATA.
```

➡ To play back search results, press either the PLAY button or the PAUSE button.

4. Press the STOP button to stop searching.
• **The display will revert to its original state.**

■ SCSI ID number allocation

ID0 to ID3 are allocated to the main hard disk drive. ID4 is allocated to the archive device, and ID5 is allocated to the copying device.

■ Selecting other devices

The device to be used in playback can be chosen using the PLAY DEVICE button located on the main unit's front face. Check to see that the selected device's PLAY DEVICE indicator is on.

1. Press the POWER button.

2. Insert the medium of archive device or copying device.

➡ During playback of the archive device or copying device media, playback can be made using an interval that differs from the recording interval by pressing the PLAY button or the REV PLAY button. Visual quality will depend on the device's transmission speed.

3. Select the device to be played by pressing the PLAY DEVICE button on the front of this unit. The selected device's indicator light will turn on.

```
PLAY DEVICE
  ▣
```

➡ Check whether the connected device's access lamp is on.

4. Press the PLAY button.
• **The device will start playing after a still picture has been displayed.**

➡ Various play and search options using the SHUTTLE ring are possible during playback of the copying device, although there will be some delay before images are displayed.

INFORMATION If a DDS-type tape media is connected as an external recording device, playback, eject and other functions may take a few minutes depending on the media's recording condition.

■ Copying from the hard disk to the copying device

This unit features the capability to use a designated copy device to copy data recorded on its hard disk. In addition, the Copy range can be specified.

➡ The copying device must be connected to ID5 when copying recorded material. Refer to page 19 for more details on ID numbers.

• Set the COPY DIRECTION on the <COPY SELECTION> menu to "HDD ➔ COPY".

• Set the OVERWRITE on the <COPY SELECTION> menu to "OFF". Refer to page 16 for details on the <COPY SELECTION> menu settings.

➡ When "ON" is selected, previously recorded data will be erased and the designated Copy range will be copied. When "OFF" is specified, copying will begin at a point after the previously recorded data.

■ Restoring items onto the hard disk from the copying device

This unit features the capability to restore recorded data to the hard disk from a copying device. In addition, the restore range can be specified.

• Set the COPY DIRECTION on the <COPY SELECTION> menu to "COPY ➔ HDD".
• "ON" is the only setting available for the OVERWRITE on the <COPY SELECTION> menu.

■ Restoring items from the archive device to the hard disk

This unit features the capability to restore recorded data to the hard disk from an archive device. In addition, the Restore range can be specified. "ON" is the only available setting for the Restore function.

➡ The archive device must be connected to ID4 when making backups of recorded material. Refer to page 19 for more details on ID numbers.
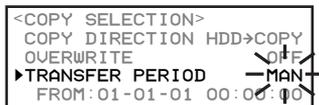
■ Setting of Copy range

♦ Manual setting of Copy range

1. Press the COPY button.
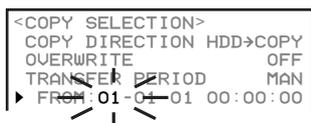 • **The <COPY SELECTION> menu will appear.**
  • **Use the JOG dial / SHUTTLE ring to designate the copy destination.**

2. Use the JOG dial to move the cursor to "TRANSFER PERIOD", then turn the SHUTTLE ring clockwise to select "MAN".

```
<COPY SELECTION>
 COPY DIRECTION HDD➔COPY
 OVERWRITE          OFF
▶TRANSFER PERIOD   —MAN—
  FROM:01-01-01 00:00:00
```
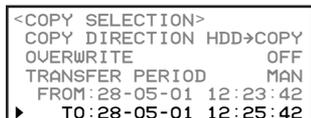
3. Turn the SHUTTLE ring clockwise to enter the MAN setting, then use the JOG dial to move the cursor to the start-time field and turn SHUTTLE ring clockwise.
  • **The Date column will start blinking.**

```
<COPY SELECTION>
 COPY DIRECTION HDD➔COPY
 OVERWRITE          OFF
 TRANSFER PERIOD    MAN
▶ FROM:01-01-01 00:00:00
```

4. Use the JOG dial and SHUTTLE ring to set the desired start-time and end-time.
  • **To establish the start-time and end-time settings, use the SHUTTLE ring to move the flashing cursor to the far right, then turn the SHUTTLE ring clockwise.**

```
<COPY SELECTION>
 COPY DIRECTION HDD➔COPY
 OVERWRITE          OFF
 TRANSFER PERIOD    MAN
 FROM:28-05-01 12:23:42
▶   TO:28-05-01 12:25:42
```

5. Use the JOG dial to move the cursor to EXECUTE, then turn the SHUTTLE ring clockwise to select "ON".

```
 FROM:28-05-01 12:23:42
   TO:28-05-01 12:25:42
▶EXECUTE         — ON —

TURN THE SHUTTLE RING
>> TO EXECUTE.
```
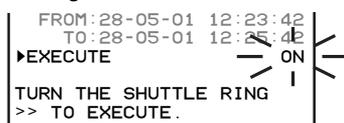
6. Turn the SHUTTLE ring clockwise to initiate the Copy or Restore functions.
  • **When Copy range is set manually, the unit will execute the Copy function at a range slightly larger than the setting.**

➡ If the Copy range exceeds the amount of available storage space in the copy medium, the unit will issue a size error warning during copy operation. In this case, either reset the Copy range or replace the copy medium. Refer to page 84 for more details on warning indicators. In addition, if the COPY button is pressed when the Copy range is set to "S/E", the unit will automatically input the Copy range. This does not mean, however, that the Copy function has been started.

INFORMATION The unit is capable of recording onto its hard disk while executing the Copy function. The unit generates a OVERTAKE warning during copying when hard disk over-writing is being approached. When it is exceeded, a CALL OUT signal will be emitted from the CALL OUT terminal, and the Copy function will be stopped.

➡ When setting the copying range, if the setting covers a day in which no data is included, the COPY SIZE ERROR warning message will appear. The range must be specified for dates that have data.

♦ Automatic settings for Copy range
By setting "TRANSFER PERIOD" to "S/E", the process of setting copy range becomes simplified. Refer to steps 1 to 3 on the left for the setting procedure.

• When "S/E" is selected, the start- and end-times of the data recorded in the hard disk are displayed. Select "S/E" in step 2 of the procedure outlined on the left, then complete steps 5 and 6 to complete this setting.

Limits to the copy range can be established by first using the automatic setting procedure described above to set start-time and end-time, then performing the manual settings on the copy range described on the left.

• Still frame playback copy mode
The PAUSE button on the unit's front can be used to freeze the image during data playback. When the COPY button is then pressed, the time of the paused image will be set in both the "FROM" and "TO" fields of the COPY menu.

♦ Automatic adjustments of Copy range
This copying method automatically adjusts copy size to the copy medium's available storage space, using one limit of the Copy range as a fixed point.

a) Designating start-time
Copy start-time is set manually, then end-time is adjusted automatically according to the copy medium's available storage space.
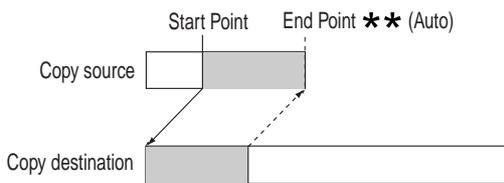 • **Designate start-time.**
  • **Set end-time in the (** - ** - ** ** : ** : **) field.**

➡ When the copy end-point is automatically adjusted, the actual recording proceeds as shown in the following chart.

1) When the amount of data in the copy source is larger than the amount of data in the copy destination.

Start point   End point ✱✱ (Auto)

Copy source

Copy destination

2) When the amount of data in the copy source is smaller than the amount of data in the copy destination.

Start Point   End Point ✱✱ (Auto)
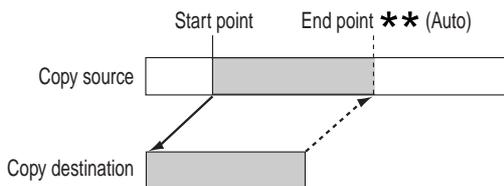
Copy source

Copy destination

b) Copying the newest copyable data from the hard disk
Copy range is automatically adjusted to the copy medium's available storage space using the end-point of recording on the hard disk.

> • Set start-time and end-time in the (✱✱ - ✱✱ - ✱✱ ✱✱ : ✱✱ : ✱✱) field.

➡ When the unit is set to copy the last function from the hard disk, the actual recording proceeds as shown in the following chart.

1) When the amount of data in the copy source is larger than the amount of data in the copy destination.

Start Point ✱✱ (Auto)   End Point

Copy source

Copy destination

2) When the amount of data in the copy source is smaller than the amount of data in the copy destination.

Start Point ✱✱ (Auto)   End Point
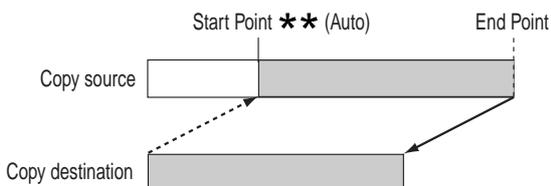
Copy source

Copy destination

♦ Procedure for setting " ✱✱ "
1. Use steps 1 to 3 from "Manual settings for Copy range" written on the previous page.

```
TRANSFER PERIOD    MAN
▶ FROM:29-01-01 09:25:24
    TO:05-02-01 10:22:53
 EXECUTE            OFF
```
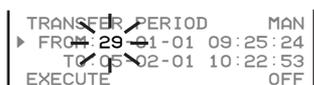
2. Turn the SHUTTLE ring clockwise to select the "Year" field of the Copy start/end-time display, and use the JOG dial to select " ✱✱ ".

```
 TRANSFER PERIOD    MAN
▶ FROM:28-05-01 12:25:34
    TO:**-**-** **:**:**
 EXECUTE            OFF
```

```
 TRANSFER PERIOD    MAN
  FROM:**-**-** **:**:**
▶   TO:**-**-** **:**:**
 EXECUTE            OFF
```
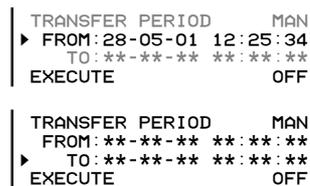
• **When the start point of a) is specified, " ✱✱ " is displayed at** the Year position of the end-point. **When copying using method b), " ✱✱ " is displayed at the Year position of the start-point. When the Year position of the start point is set to display " ✱✱ " , the end-time display is automatically set to display " ✱✱ " .**

3. Use steps 5 and 6 from "Manual settings for Copy range " to initiate the Copy function*.*

♦ Cancelling Copy operation
The COPY process can be stopped by pressing the WARNING RESET button while the recorder is operating in COPY mode.

■ Backup operation
The unit can be made to record unsaved hard disk data in its archive device each time the ARCHIVE button is pressed. This backup process is conducted as follows:

Recording | Tuesday | Wednesday | Thursday |
on HDD

Previous backup
range
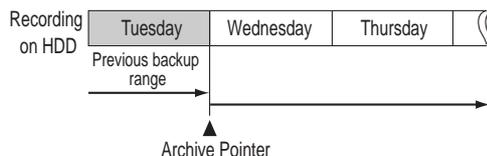
Archive Pointer

➡ During Backup operation, backups are created starting with the oldest data stored on the hard disk drive.

➡ The position of the Archive Pointer **Glossary** will not be erased when the unit's main power switch is turned off. To cancel the position of the pointer, use the "ARCHIVE POINT RESET" setting in the <SERVICE> menu. Refer to page 28 for more details.

When the ARCHIVE button is pressed, the unit will use its archive device to make backups of data recorded after the point indicated by the Archive Pointer.

♦ Restrictions during Backup Recording

1. Selectable recording intervals for simultaneous backup
Recording interval for simultaneous backup of recorded data is determined by the data-writing speed of the connected device. For reference, the following chart provides a list of interval modes which can be selected when the unit is used in conjunction with a Hewlett-Packard C1556A drive (DDS3). (The same modes apply when the main hard disk drive has been expanded.)

IMAGE QUALITY / Field/sec.	25F	12.5F	8.33F	6.25F
SUPERIOR				
HIGH	Non-selectable			
MEDIUM				
STANDARD				
BASIC				

☐ :Simultaneous backup is possible

2. Precautions when designating Timer simultaneous backup
The Backup Program, which can be designated as an individual operation, can also be designated with the RECORD and POWER Programs. The following items apply when designating these multiple program modes.

1) There may be restrictions imposed by the other recording devices, it is recommended that adequate program checks are run before actual operation.

*) Precautions when connecting devices requiring time to halt startup (e.g., archive devices, tape recording devices etc.)

• Using the Backup setting's designated time plus 5 minutes (the halt startup time of the peripheral recording devices) as a gauge, set the unit so that modes do not change. (Refer to illustration 1.)

• Even when only designating the backup mode, add one minute or more to the backup operation time, and set other programs to start and stop. (Refer to Illustration 2.)
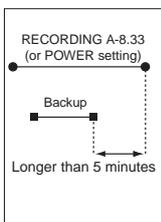
RECORDING A-8.33 (or POWER setting)
Backup
Longer than 5 minutes
Illustration 1: Correct setting
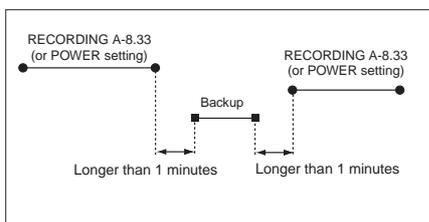
RECORDING A-8.33 (or POWER setting)
Backup
RECORDING A-8.33 (or POWER setting)
Longer than 1 minutes
Longer than 1 minutes
Illustration 2

♦ ARCHIVE button operation
The transfer of data, for backup purposes, from the unit's HDD to a peripheral recording device is performed in fixed data amounts each time. Data transfer begins when 30MB is recorded onto the HDD. Accordingly, even if the ARCHIVE button is lit, there are times when the operation of archive devices are stopped in order to reduce wear on these devices. To end the backup, please press the ARCHIVE button one more time as the button remains lit even after the backup process is finished. The ARCHIVE button will start blinking when pressed, and will stop blinking when recorded

data has been transferred, thus ending the backup process.

♦ Cancelling Backup operation
Press the ARCHIVE button during Backup Recording to halt operation. The Archive Pointer will be re-positioned to where operation was stopped, and the next Backup Recording will begin at this point. The unit will halt operation while the ARCHIVE button is blinking; please wait until the button's light stays on.

■ Individual settings during Backup operation

♦ Choosing a backup system
Select either "ON" or "OFF" for the ARCHIVE OVERWRITE setting on the <INITIAL SET UP> menu. The default setting is "OFF". Use the JOG dial and SHUTTLE ring to check that settings are as desired. (Refer to page 30.)

a) "OFF": Data will be added to the storage medium from the point where previous Backup Recording was completed.

Archive pointer
(Archive media)
Default setting before backup recording | TUE | capacity |
Archive pointer
After finishing backup | TUE | WED | THU |
Additional recording from the Archive pointer
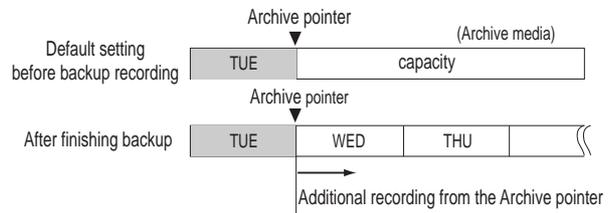
b) "ON": Data previously recorded on the storage medium will be over-written and erased.

This data will be erased.
(Archive media)
Default setting before backup recording | TUE | Capacity |
After backup recording | WED | THU | FRI |
Overwriting backup
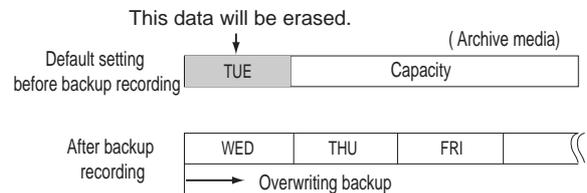
♦ Auto-eject at the completion of backup
The unit can be set so that the storage medium will be automatically ejected upon completion of Backup process. Refer to page 31 for details on the setting procedure.

Besides this setting, the archive medium will be automatically ejected under the following conditions.

• When the archive medium becomes full during One-touch Backup.
• When the archive medium becomes full during Timer Backup.
• When the ARCHIVE button is pressed once again, after operation has been initiated with the ARCHIVE button.
• When a recording malfunction, medium error, or system error occurs during Backup operation.

■ Timer Backup

The timer can be used to archive data in the main hard disk drive which has not yet been backed up. The unit can archive data even if it is currently in the process of Timer Recording. Please check the settings for backup over-writing. (Refer to page 30 for more details.)

(!) Make sure to connect the archive device using SCSI ID4.

Example: Use Program #5 in the Timer operational mode P2 to make a backup everyday between 00:00 to 05:00. (All data is backed up in one session.)

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to TIMER PROGRAM.

3. Turn the SHUTTLE ring to the right to display the <TIMER PROGRAM> menu. Check that the cursor is next to SELECTED PATTERN, turn the SHUTTLE ring to the right.
• **The sub-item will start flashing.**

```
<TIMER PROGRAM>
 SELECTED PATTERN      P1
▶DEFINE P1
 DEFINE P2
 DEFINE P3
```

4. Turn the JOG dial to select "P2" and turn the SHUTTLE ring to the right.

```
<TIMER PROGRAM>
 SELECTED PATTERN     P2
▶DEFINE P1
 DEFINE P2
 DEFINE P3
```

5. Turn the JOG dial to move the cursor to DEFINE P2, then turn the SHUTTLE ring to the right.
• **The <TIMER PROGRAM> of P2 appears.**

```
<TIMER PROGRAM>       P2
 DW  START  END   MODE
▶ SAT 19:30 22:30 A-  25
2 TUE 10:00 11:00 B-12.5
3 SPL 10:00 17:00 B-   1
```

6. Turn the JOG dial to move the cursor to Program #5, then turn the SHUTTLE ring clockwise to move the cursor to the DW column.
• **Group the backup program to the largest available program number.**
• **Use the JOG dial to select "DW" and turn the SHUTTLE ring clockwise to complete this setting.**
• **Repeating the above procedure, use the JOG dial and SHUTTLE ring to set start time and end time.**

```
<TIMER PROGRAM>       P2
 DW  START  END   MODE
1 SAT 19:30 22:30 A-  25
2 TUE 10:00 11:00 B-12.5
3 SPL 10:00 17:00 B-   1
4 WED 07:00 08:00 B-   1
▶----:-- --:-- ------
```

7. When MODE column is flashing, select "ARC" then turn the SHUTTLE ring to the right.

```
<TIMER PROGRAM>       P2
 DW  START  END   MODE
1 SAT 19:30 22:30 A-  25
2 TUE 10:00 11:00 B-12.5
3 SPL 10:00 17:00 B-   1
4 WED 07:00 08:00 B-│
▶ DAY 00:00 05:00-----
```

➡ The start point of the backup is at the position of the Archive Pointer Glossary , and its end point is where backup is terminated within the designated time frame. When backup is completed within the designated time frame, the unit saves the Archive Pointer at this position, and will start the next backup at this position.

8. Turn the SHUTTLE ring to the left or press the SET UP button.
• **The Timer Backup is grouped as shown in the following illustration.**

```
<TIMER PROGRAM>       P2
 DW  START  END   MODE
1 SAT 19:30 22:30 A-  25
2 TUE 10:00 11:00 B-12.5
3 SPL 10:00 17:00 B-   1
4 WED 07:00 08:00 B-   1
▶ DAY 00:00 05:00 ARC
```

➡ A recording operation warning is displayed when hard disk drive data which has yet to be backed up is about to be over-written. After that, a recording malfunction message will be displayed when that point has been exceeded.

INFORMATION The unit can be set so that a CALL OUT signal is emitted when the archive medium has run out of storage space. Refer to page 27 for more details on CALL OUT settings.

■ Power failure reset recording

The unit will restart recording after the event of a power failure, even if the unit was running in recording mode prior to the power failure. When running Timer Recording, the unit will restart recording if the power failure ends before the user-specified time frame. After a power outage, a mark "X" will appear on the monitor next to the time display. This can be removed by pushing the WARNING RESET button.

➡ In the case of a power failure during recording, image quality may be partially degraded and search functions may not operate normally.

■ Power failure time display

The start-times of power failures are recorded when the unit is turning on electricity, and can be confirmed later. (Start times of power failures occurring during backup operation are not recorded.) Refer to page 28 for more details.

■ **Power failure compensation circuit**
The unit is equipped with an internal power failure compensation circuit, and, after a full recharge of 48 or more hours, will preserve data and time settings for one month. Timer settings and menu settings will also be preserved. Time settings will not be precise, if the unit has been unplugged for a long period of time.

■ **RESET button**
The following conditions occur when the RESET button located on the unit's back panel is pressed (using a ballpoint pen or other object): the current time is erased, the system is reset, and main power is turned off. Recorded data and menu settings will not be erased.

■ **Simple lock function**
When the LOCK button is pressed (with a ball-point pen, for example), the unit's buttons, JOG dial, and SHUTTLE ring cannot be used, and the unit will remain fixed in its current settings. The Multiplexer button (refer to page 7), however, can be used with the LOCK function. Press the LOCK button to cancel this function. The LOCK indicator light will show when the unit is in Lock mode. In addition, this function can only be used until the password lock function is set. Once the password lock function has been set, the SIMPLE LOCK FUNCTION becomes inoperative.

■ **PASSWORD LOCK function**
Pressing the LOCK button on the front of the unit will enable you to record a password. Once the password has been entered and the unit has been locked, the functions other than the camera switch will not operate unless the correct password is entered. This function will not work when power is off.

Example: Recording the password for the first time.

1. Hold the LOCK key down for at least 5 seconds.
• **The <PASSWORD SETTING> menu will appear.**

```
<PASSWORD SETTING>
    ▶1. - - - -
     2. - - - -

 INPUT PASSWORD
 TURN THE SHUTTLE RING
 >> TO ENTER.
```
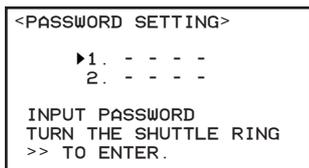
2. Enter the password.
• **Enter a four-digit password.**

```
<PASSWORD SETTING>
     1. ● ● ● ●
    ▶2. - - - -

 INPUT PASSWORD AGAIN
 TURN THE SHUTTLE RING
 >> TO ENTER.
```
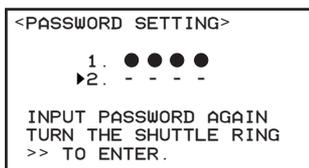
• **The password may consist of the numbers from 1 to 9 which are assigned to the camera switch button located on the front of the unit. 0 is assigned to the ZOOM key. (Refer to page 7.)**

3. Re-enter the password.
• **"TURN THE SHUTTLE RING >>TO ENTER." will appear on the screen.**
• **If the wrong password is enter , the menu will display the PASSWORD ERROR, and the all the " ● " will be cleared. Enter the password again.**

```
<PASSWORD SETTING>
     1. ● ● ● ●
     2. ● ● ● ●

 PASSWORD ERROR
```
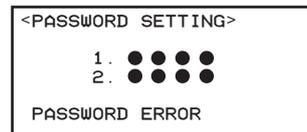
• **The display reading "TURN THE SHUTTLE RING >> TO ENTER." appears when the menu is displayed. If the password is not enter, turning the SHUTTLE ring to the left will result in an error.**
• **If a password error occurs, the incorrect password may be cleared using the WARNING RESET key.**

```
<PASSWORD LOCK>
     ● ● ● ●

 PASSWORD ERROR
```
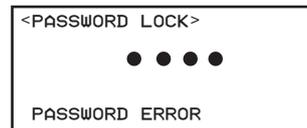
4. Turn the SHUTTLE ring to the right.
• **The password is now set, and the normal operating screen appears.**

Example: Turning the PASSWORD LOCK functions on and off.

"OFF": The PASSWORD LOCK functions can be disabled by pressing the LOCK button on the front of the unit and entering the password.

"ON": To return to locked status, press the LOCK button again.

```
<PASSWORD LOCK>
     - - - -

 INPUT PASSWORD
 TURN THE SHUTTLE RING
 >> TO ENTER.
```
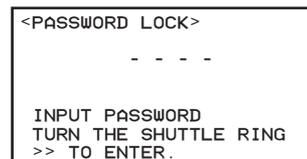
NOTE: Contact the dealer if you forget your password.

Example: Changing passwords.

1. During unlocking, press the LOCK button for five seconds.
• **The <PASSWORD LOCK> menu will appear.**

```
<PASSWORD LOCK>
     - - - -

 INPUT PASSWORD
 TURN THE SHUTTLE RING
 >> TO ENTER.
```
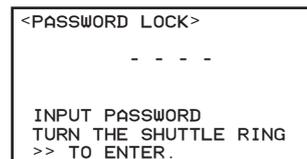
2. Enter the current password.

3. The <PASSWORD SETTING> menu will appear.
• **Using the same procedure for setting the original password, enter and set the new password.**

```
<PASSWORD SETTING>
    ▶1. - - - -
     2. - - - -

 INPUT PASSWORD
 TURN THE SHUTTLE RING
 >> TO ENTER.
```
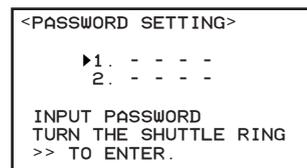
■ RS-232C settings

This connection can be used for remote control and re-cording supplementary information when the main unit is connected to a PC.

♦ Transmission speed

Example: Transmission speed is set for 4800 bps.

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to COMMUNICA-TION SETTING then turn the SHUTTLE ring to the right.
• The <COMMUNICATION SETTING> menu will appear.

```
<COMMUNICATION SETTING>
▶RS-232C SETTING
 TCP/IP SETTING
```
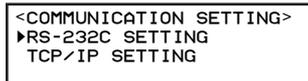
3. Check that the cursor is next to RS-232C SETTING and turn the SHUTTLE ring to the right.
• The <RS-232C SETTING> menu will appear.

```
<RS-232C SETTING>
▶TRANSMISSION RATE  1200
 DATA BIT LENGTH    8BIT
 PARITY BIT         NONE
 STOP BIT LENGTH    1BIT
 DELIMITER            CR
```
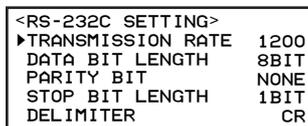
4. Check that the cursor is next to TRANSMISSION RATE and turn the SHUTTLE ring to the right to flash the sub-item.

```
<RS-232C SETTING>
▶TRANSMISSION RATE  1200
 DATA BIT LENGTH    8BIT
 PARITY BIT         NONE
 STOP BIT LENGTH    1BIT
 DELIMITER            CR
```
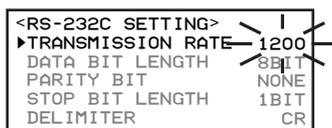
5. Turn the JOG dial to select "4800" and turn the SHUTTLE ring to the right to finish setting.

```
<RS-232C SETTING>
▶TRANSMISSION RATE  4800
 DATA BIT LENGTH    8BIT
 PARITY BIT         NONE
 STOP BIT LENGTH    1BIT
 DELIMITER            CR
```

6. Press the SET UP button.
• The <RS-232C SETTING> menu will disappear.

■ TCP / IP settings

The IP address, subnet mask setting, and MAC address used to specify the connected recorder can be referred to here (refer to page 8).

1. Press the SET UP button to display the <MENU SETTING> menu.

2. Turn the JOG dial to move the cursor to COMMUNICA-TION SETTING then turn the SHUTTLE ring to the right.
• The <COMMUNICATION SETTING> menu will appear.

```
<COMMUNICATION SETTING>
▶RS-232C SETTING
 TCP/IP SETTING
```

3. Turn the JOG dial to move the cursor to TCP / IP SETTING then turn the SHUTTLE ring to the right.
• The <TCP / IP SETTING> menu will appear.

```
<TCP/IP SETTING>


▶SELF IP ADDRESS
        000.000.000.000
 SUBNET MASK
        000.000.000.000
<MAC ADDRESS>
        08-00-70-2E-3F-FF
```
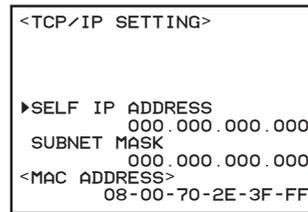
4. Check that the cursor is next to SELF IP ADDRESS and turn the SHUTTLE ring to the right to flash the sub-item .

```
<TCP/IP SETTING>


▶SELF IP ADDRESS
     ─ 000.000.000.000
 SUBNET MASK
        000.000.000.000
<MAC ADDRESS>
        08-00-70-2E-3F-FF
```
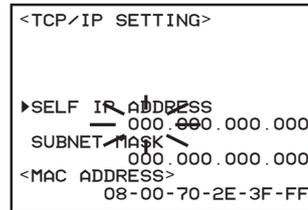
5. Turn the JOG dial to input the SELF IP ADDRESS and turn the SHUTTLE ring to the right to finish setting.

```
<TCP/IP SETTING>


▶SELF IP ADDRESS
        192.168.001.100
 SUBNET MASK
        255.255.255.000
<MAC ADDRESS>
        08-00-70-2E-3F-FF
```
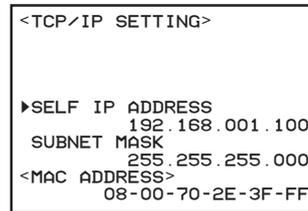
6. Press the SET UP button or turn the SHUTTLE ring to the left.
• The <TCP/IP SETTING> menu will disappear.

■ Connecting with a personal computer

This connection can be used for remote control and re-cording supplementary information when the main unit is connected to a PC.

■➡ Please use RS-232C Straight cable (9pin) to con-nect a modem with this unit. The setting of CTS should be set to "HIGH" or "ON". Please refer to the instruction manual of a modem for details about con-nection.

♦ Connection via modem

Personal Comput

phone line

Modem ▪▪▪▪▪ Modem

RS-232C straight cable (9 pin)

♦ Direct connection

Personal Computer
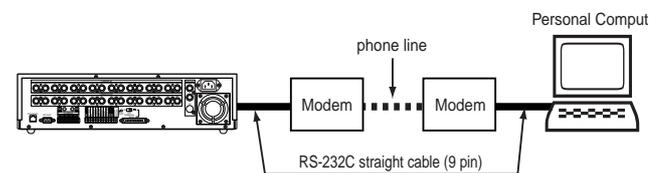
RS-232C crossover cable
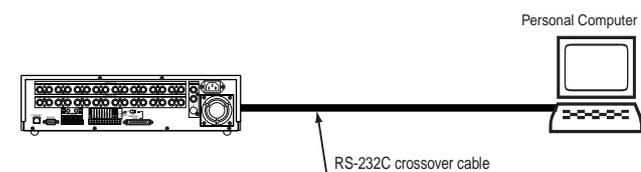
■➡ Please use RS-232C crossover cable (9pin) to connect a modem with a personal computer. RS -232C Crossover cable differs depending on the per-sonal computer.

♦ RS-232C terminal
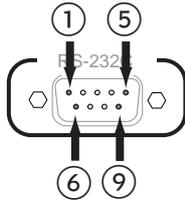
Pin NO.	Letters	Transmition Contents	Pin NO.	Letters	Transmition Contents
②	RXD	Receiving Data	⑥	DSR	Data Set Ready
③	TXD	Transmission Data	⑦	RTS	Transmission
④	DTR	Data Terminal Ready			Requirement
⑤	GND	Signal Ground	⑧	CTS	Transmission Clear

♦ RS-232C cable
Please use the following RS-232C Crossover cable to connect your personal computer to the Unit.

1) When RS-232C terminal of personal computer is D-SUB 25 pin

```
FRAME ────────────── 1 FG
RXD 2 ────────────── 2 TXD
TXD 3 ────────────── 3 RXD
DTR 4 ──────┐ ┌───── 4 RTS
GND 5 ────┐ └─┼───── 5 CTS
DSR 6 ────┼───────── 6 DSR
RTS 7 ────┘ ┌─────── 7 GND
CTS 8 ──────┘ ────── 20 DTR
```
D-SUB 9 pin (unit)   D-SUB 25 pin(Personal computer)
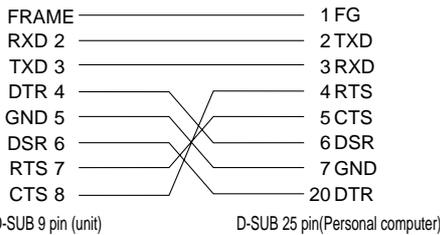
2) When Pesonal cpmputers RS-232C terminal is D-SUB 9 pin

```
FRAME ────────────── FRAME
RXD 2 ──────╲╱────── 2 RXD
TXD 3 ──────╱╲────── 3 TXD
DTR 4 ────────────── 4 DTR
GND 5 ──────╲╱────── 5 GND
DSR 6 ──────╱╲────── 6 DSR
RTS 7 ──────╲╱────── 7 RTS
CTS 8 ──────╱╲────── 8 CTS
```
D-SUB 9 pin   D-SUB 9 pin
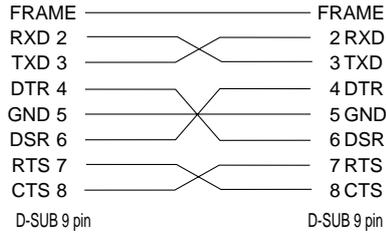
♦ Setting the communicating mode
The settings can be made on RS-232C SETTING of the <REAR TERMINAL> menu. Set the Unit and the modem or a personal computer with same settings. Please refer to the diagram for possible setting rate.

Synchronization	Name on Menu	Asynchronous
① Transmission rate at the data received/ sent	TRANSMISSION RATE	1200/2400/4800/ 9600
② Data bit length	DATA BIT LENGTH	8 BIT/7 BIT
③ Parity bit setting	PARITY BIT	NONE/ODD/EVEN
④ Stop bit length	STOP BIT	1 BIT/2 BIT
⑤ Line feed setting	DELIMITER	CR/CR•LF

\# Set other functions on the personal computer as shown below.

Synchronization	Name on Menu
① X control	Not available
② S parameter	Not available
③ CS-RS hamd-shake	Available

➡ Please note that the RS-232C interface (located on the back of the unit) does not function while the unit is in communication mode.

■ Command code and status
Operation and setting of this unit by a personal computer is executed by command codes and error codes.

1) Command : an order from a personal computer to the unit

| Command code | Parameter 1 | , | Parameter 2 | , | ·········· |

| ·········· | , | Parameter n | Delimeter (sending) #1 |
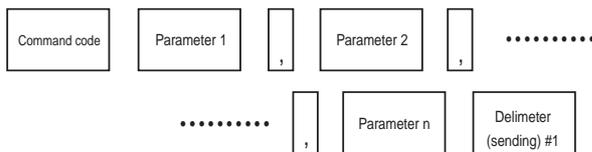
#1: If you set the DELIMITER setting to "CR" on the RS-232C setting menu, input a Carrige return code (0DH).
If you set the DELIMITER setting to "CR • LF" on the RS-232C setting menu, input a carrige return code (0DH) and a line ✱✱✱✱code (0AH).

2) Command : a reply from the unit (indicated on a personal computer)

| Status | Parameter 1 | , | Parameter 2 | , | ·········· |

| ·········· | , | Parameter n | Delimeter (receiving) #2 |
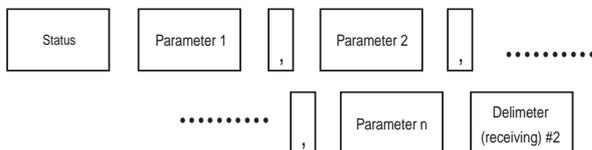
#2: If you set the DELIMITER setting to "CR" on the RS-232C setting menu, output a Carrige return code (0DH).
If you set the DELIMITER setting to "CR • LF" on the RS-232C setting menu, output a carrige return code (0DH) and a line ✱✱✱✱code (0AH).

Make sure to send commands in an interval of 0.1 second.

♦ Example of Command operation

Example 1) Turn the Unit on.(when DELIMITER is set to "CR" on the RS-232C setting menu)

Command from personal computer	Replied status code from uint to a personal computer	Meaning
PW1 CR		Sending a command to turn the Unit on.
	RC CR	The unit received a command.
	EX CR	The unit received a command and executed.

♦ Details of the numbers

#1 : When the setting of DELIMITER on RS-232C setting display is set to CR, carriage return code (0DH) will be input. If the setting is CR•LF, carriage return code (0DH) and line feed code (0AH) will be input.

#2 : When the setting of DELIMITER on RS-232C setting display is set to CR, carriage return code (0DH) will be output. If the setting is CR•LF, carriage return code (0DH) and line feed code (0AH) will be output.

✱ : Indicates one number or a character.

	Commands	Functions	Status, when normal execute
BASIC FUNCTIONS	IA?	Acquire information on MAC ADDRESS	RC[#2]IA✱✱,✱✱,✱✱,✱✱,✱✱,✱✱[#2]
	VC?[#1]	Acquire information on model identification code	RC[#2]DX1601[#2]
	PW✱[#1]	POWER ON/OFF ✱ : 0 ~ 1 0 : OFF 1 : ON	RC[#2]EX[#2]
	SP[#1]	STOP	RC[#2]EX[#2]
	PB[#1]	PLAYBACK	RC[#2]EX[#2]
	RP[#1]	REVERSE PLAYBACK	RC[#2]EX[#2]
	RC[#1]	RECORDING	RC[#2]EX[#2]
	PU✱[#1]	PAUSE SETTING/RELEASE ✱ : 0 ~ 1 0 : ON 1 : OFF	RC[#2]EX[#2]
	FA[#1]	Forward advance	RC[#2]EX[#2]
	RA[#1]	Reverse advance	RC[#2]EX[#2]
	PF✱[#1]	Forward Speed search ✱ : Playback speed(1~ 4) 　[Playback] 1 : Skip 3 fields 2,3 : Skip 5 fields 　　　　　　　　　4 : Skip 1 MByte 　[STOP] 1 ~ 4 : Skip 2 MByte	RC[#2]EX[#2]
	PR✱[#1]	Reverse Speed search ✱ : Playback speed (1 ~ 4) (Refer above for settings)	RC[#2]EX[#2]
	RW✱[#1]	Rewind DDS cassette ✱ : 0 ~ 1 0 : ID4 1 : ID5	RC[#2]EX[#2]
	TR✱[#1]	Timer REC ON/OFF ✱ : 0 ~ 1 0 : OFF 1 : ON	RC[#2]EX[#2] (during POWER ON only)
	AV✱[#1]	ARCHIVE ON/OFF ✱ : 0 ~ 1 0 : OFF 1 : ON	RC[#2]EX[#2]
	LO✱[#1]	LOCK ON/OFF or PASSWORD LOCK ON ✱ : 0 ~ 1 0 : LOCK OFF 1 : LOCK ON or PASSWORD LOCK ON	RC[#2]EX[#2] (ER08[#2] : PASSWORD input during LOCK OFF) (ER17[#2] is output if LO0[#1] is input while PASSWORD LOCK is set to ON.)
	LM[#1]	Acquire information on status of LOCK or PASSWORD LOCK function	RC[#2]LM✱[#2] ✱ : 0 ~ 1 0 : OFF 1 : ON
	PO?[#1]	Acquire information on whether password has been registered for PASSWORD LOCK function	RC[#2]PO✱[#2] ✱ : 0 ~ 1 0 : No password registered 1 : Password registered
	PO✱(1),✱(2),✱(3),✱(4)[#1]	PASSWORD LOCK OFF ✱(1),✱(2),✱(3),✱(4) : Password (0 ~ 9)	RC[#2]EX[#2] (ER16[#2] : PASSWORD ERROR)
	MB✱✱✱[#1]	Switch over playback interval to ✱✱✱ : (001 ~ 008) 001 : 25F　　　　002 : 12.5F　　　003 : 8.33F 004 : 6.25F　　　005 : 5F　　　　　006 : 4.17F 007 : 2.5F　　　　008 : 1F	RC[#2]EX[#2]
	MB?[#1]	Acquire information on playback interval	RC[#2]MB✱✱✱[#2] ✱✱✱ : (001 ~ 008) (Same as playback interval shown above)
	FD?[#1]	Acquire information on time and date recorded on data	RC[#2]FD✱✱(1),✱✱(2),✱✱(3),✱✱(4),✱✱(5),✱✱(6)[#2] ✱✱(1) : Day　✱✱(2) : Month　✱✱(3) : Year ✱✱(4) : Hour　✱✱(5) : Minute　✱✱(6) : Second
	PS✱✱(1),✱✱(2)[#1]	Move date and present time display ✱✱(1) : (Horizontal) (Display mode 1, Character size large : 00 ~ 28) (Display mode 1, Character size small : 00 ~ 28) (Display mode 2 or 3, Character size large : 00 ~ 28) (Display mode 2 or 3, Character size small : 00 ~ 28) ✱✱(2) : (Vertical) (Display mode 1, Character size large : 03 ~ 26) (Display mode 1, Character size small : 03 ~ 26) (Display mode 2 or 3, Character size large : 01 ~ 26) (Display mode 2 or 3, Character size small : 01 ~ 26)	RC[#2]EX[#2]

	Commands	Functions	Status, when normal execute
BASIC FUNCTIONS	LC [#1]	Acquire information on current position of date and present time display	RC [#2] LT $\bigstar\bigstar^{(1)}$, $\bigstar\bigstar^{(2)}$ [#2] (Same as $\bigstar\bigstar^{(1)}$ and $\bigstar\bigstar^{(2)}$ of Move date and present time display)
	DP00 [#1]	Exits MENU display	RC [#2] EX [#2]
	ST0 [#1]	Stop the selected item on the menu to flash	RC [#2] EX [#2]
	PI [#1]	Acquire information on currently displayed menu and whether the setting is proceeding	RC [#2] ON $\bigstar\bigstar^{(1)}$, $\bigstar^{(2)}$ [#2] $\bigstar\bigstar^{(1)}$: 00 ~ 69 00 : current date and time display 01 : NORMAL REC SETTING 02 : TIME DATE DISPLAY 03 : TIMER PROGRAM M-DET APPLICATION 04 :MPX DISPLAY 06 : DIFINE GROUP 07 : MENU SETTING 08 : TIME DATE ADJUST 09 : COMMUNICATION SETTING 10 : INITIAL SETUP 11 : SERVICE 12 : POWER FAILURE 13 : REAR TERMINAL 14 : RS232C SETTING 15 : DATE CLEAR SELECTION 16 : CLOCK LOCATION 17 : CAMERA TITLE 19 : SCREEN SW PATTERN 20 : SPLIT16 SCREEN SETTING 21 : SPLIT9 SCREEN SETTING 22 : SPLIT4 SCREEN SETTING 24 : SPECIAL FUNCTION MENU 25 : CALL OUT 26 : VER.UP SELECTION 29 : A-REC/M-DET SETTING 30 : DEFINE ALARM GROUP 31 : LANGUAGE SELECTION 32 : INFORMATION 36 : CONNECTED SCSI DEVICE 37 : RECORDED PERIOD 40 : MOTION 41 : SET DETECTION MASK 42 : TEST MODE 43 : TCP/IP SETTING 49 : TIME DATE SEARCH SEARCHING 50 : INDEX SEARCH SEARCHING 51 : ALARM LIST SEARCH SEARCHING 52 : SKIP SEARCH SEARCHING 53 : COPY SELECTION 54 : PASSWORD SETTING 55 : PASSWORD LOCK 58 : TIMER PROGRAM P1 59 : TIMER PROGRAM P2 60 : TIMER PROGRAM P3 64 : SEARCH SELECTION 65 : TIME DATE SEARCH 66 : INDEX SEARCH 67 : SKIP SEARCH 68 : ALARM LIST SEARCH 69 : JUMP TO START POINT $\bigstar^{(2)}$: 0 ~ 1 0 : define 1 : menu is flashing
	CP? [#1]	Acquire information on the used memory of device selected in CAPACITY REMAIN	RC [#2] CP $\bigstar^{(1)}$, $\bigstar\bigstar\bigstar^{(2)}$ [#2] $\bigstar^{(1)}$: selection of used memory (0 ~ 2) 0 : HDD 1 : ARCHIVE 2 : OFF $\bigstar\bigstar\bigstar^{(2)}$: used memory (001 ~ 100) (%) (FFF is shown when used memory is less than 1% or WRNG is set to OFF.)
	PA? [#1]	Acquire information whether time and date information recorded in playback picture is alarm recording	RC [#2] PA $\bigstar$ [#2] $\bigstar$: 0 ~ 1 0 : without alarm 1 : with alarm
	PD$\bigstar$ [#1]	PB DEVICE setting $\bigstar$: 0 ~ 2 0 : HDD 1 : ARCHIVE 2 : COPY	RC [#2] EX [#2]
	PD? [#1]	Acquire information on PB DEVICE setting	RC [#2] PD $\bigstar$ [#2] $\bigstar$: 0 ~ 2 0 : HDD 1 : ARCHIVE 2 : COPY
	EJ$\bigstar$ [#1]	Ejecting media out of DEVICE $\bigstar$: 1 ~ 2 1 : ARCHIVE 2 : COPY	RC [#2] EX [#2]

	Commands	Functions	Status, when normal execute
BASIC FUNCTIONS	CF★★ #1	The command code appointed the camera filter search when execute the search (Use together the command code when execute the search) ★★ : 00 ~ 16 (Camera number) 00 : ALL 01 ~ 16 : Camera CH(1-16)	RC #2 EX #2
	CF? #1	Acquire information on camera filter when execute the search	RC #2 CF★★ #2 ★★ : 00 ~ 16 (Camera number) 00 : ALL 01 ~ 16 : Camera CH(1-16)
	SA? #1	Acquire information on camera number that during alarm recording	RC #2 SA★(1),★(2),★(3),★(4),★(5),★(6),★(7),★(8),★(9),★(10), ★(11),★(12),★(13),★(14),★(15),★(16) #2 ★1) ~ ★(16) (the corresponding camera number) : 0 ~ 1 0 : No alarm recording 1 : During alarm recording
DISPLAY MENU	DM★ #1	DISPLAY MODE setting ★ : 1 ~ 6	RC #2 EX #2
	DM? #1	Acquire information on DISPLAY MODE setting	RC #2 DM★ #2 ★ : 1 ~ 6
	CH★ #1	Character size setting present time and display ★ : 0 ~ 1 0 : SMALL 1 : LARGE	RC #2 EX #2
	FS1 #1	Acquire information on character size setting for present time and date display	RC #2 CZ★ #2 ★ : 0 ~ 1 0 : SMALL 1 : LARGE
MPX FUNCTIONS	CU★ #1	CAMERA USAGE setting ★ : 0 ~ 2 0 : A 1 : B 2 : C	RC #2 EX #2
	CU? #1	Acquire information on CAMERA USAGE setting	RC #2 CU★ #2 ★ : 0 ~ 2 0 : A 1 : B 2 : C
	SG★ #1	IMAGE QLTY setting ★ : 0 ~ 1 0 : HIGH 1 : NO FLICKER	RC #2 EX #2
	SG? #1	Acquire information on IMAGE QLTY setting	RC #2 SG★ #2 ★ : 0 ~ 1 0 : HIGH 1 : NO FLICKER
	CS★(1),★(2),★(3),★(4), ★(5),★(6),★(7),★(8),★(9), ★(10),★(11),★(12),★(13), ★(14),★(15),★(16),★(17) #1	DEFINE GROUP setting ★(1) : Pattern selection (0 ~ 2) 0 : A 1 : B 2 : C ★(2) ~ ★(10) : Status of CH1 to CH16 (0 ~ 5) 0 : invalid 1 ~ 5 : valid (priority number)	RC #2 EX #2
	CS★(1)? #1	Acquire information on DEFINE GROUP setting ★(1) : Pattern selection (0 ~ 2) 0 : A 1 : B 2 : C	RC #2 CS★(1),★(2),★(3),★(4),★(5),★(6),★(7),★(8),★(9),★(10), ★(11),★(12),★(13),★(14),★(15),★(16),★(17) #2 (Same as DEFINE GROUP setting shown above)
	CT★★(1),★★(2), Text data #1	CH. TITLE setting ★★(1) : Camera CH (01 ~ 16) ★★(2) : Character numbers (Within 16 characters.)	RC #2 EX #2
	CT★★(1)? #1	Acquire information on CH. TITLE setting ★★(1) : Camera CH (01 ~ 16)	RC #2 CT★★(1),★★(2),Text data #2 ★★(1) : Camera CH (01 ~ 16) ★★(2) : Character numbers
	SL★(1),★★(2),★★(3),★★(4) ,★★(5),★★(6),★★(7),★★(8), ★★(9),★★(10),★★(11), ★★(12),★★(13),★★(14), ★★(15),★★(16),★★(17) #1 Split16 ★★(2) ★★(3) ★★(4) ★★(5) ★★(6) ★★(7) ★★(8) ★★(9) ★★(10)★★(11)★★(12)★★(13) ★★(14)★★(15)★★(16)★★(17) Split9 ★★(2)★★(3)★★(4), ★★(5)★★(6)★★(7) ★★(8)★★(9)★★(10) Split4 ★★(2)★★(3) ★★(4)★★(5)	SPLIT SCREEN SETTING ★(1) : Screen setting (0 ~ 6) 0 : SPLIT16 1 : SPLIT9a 2 : SPLIT9b 3 : SPLIT4a 4 : SPLIT4b 5 : SPLIT4c 6 : SPLIT4d ★★(2) ~ ★★(17) : Camera CH position (01 ~ 16) (When ★(1) is set to 0, input data to ★★(2) ~ ★★(17). When ★(1) is set to 1 or 2, input data to ★★(2) ~ ★★(10). When ★(1) is set to 3, 4 ,5 or 6, input data to ★★(2) ~ ★★(5).)	RC #2 EX #2
	SL★(1)? #1	Acquire information on SPLIT SCREEN SETTING ★(1) : Screen setting (0 ~ 6) 0 : SPLIT16 1 : SPLIT9a 2 : SPLIT9b 3 : SPLIT4a 4 : SPLIT4b 5 : SPLIT4c 6 : SPLIT4d	RC #2 SL★(1),★★(2),★★(3),★★(4),★★(5),★★(6),★★(7), ★★(8),★★(9),★★(10),★★(11),★★(12),★★(13),★★(14), ★★(15),★★(16),★★(17) #2 (Same as SPLIT SCREEN SETTING shown above.) (When ★(1) is set to 0, output data to ★★(2) ~ ★★(17). When ★(1) is set to 1 or 2, output data to ★★(2) ~ ★★(10). When ★(1) is set to 3, 4 ,5 or 6, output data to ★★(2) ~ ★★(5).)

Command Codes

	Commands	Functions	Status, when normal execute
MPX FUNCTIONS	SQ★$^{(1)}$,★★$^{(2)}$,★★$^{(3)}$, ★★$^{(4)}$,★★$^{(5)}$,★★$^{(6)}$,★★$^{(7)}$, ★★$^{(8)}$,★★$^{(9)}$,★★$^{(10)}$, ★★$^{(11)}$,★★$^{(12)}$,★★$^{(13)}$, ★★$^{(14)}$,★★$^{(15)}$,★★$^{(16)}$, ★★$^{(17)}$ [#1]	Displayed sequential channel setting ★$^{(1)}$: Screen setting (0 ~ 2) 0 : Single screen 1 : SPLIT4 screen 2 : SPLIT9 screen ★★$^{(2)}$ ~ ★★$^{(17)}$: Camera CH order (01 ~ 16, 00) (00 = invalid camera) SPLIT9 ★★$^{(2)}$: 00 ~ 01 00 : ab setting 01: a setting SPLIT4 ★★$^{(2)}$: 00 ~ 03 00 : abcd setting 01 : abc setting 02 : ab setting 03 : a setting (When SPLIT4 screen and SPLIT9 screen is selected,set ★★$^{(2)}$ only.)	RC [#2] EX [#2]
	SM★$^{(1)}$,★★$^{(2)}$,★★$^{(3)}$, ★★$^{(4)}$,★★$^{(5)}$,★★$^{(6)}$,★★$^{(7)}$, ★★$^{(8)}$,★★$^{(9)}$,★★$^{(10)}$,★★$^{(11)}$,★★$^{(12)}$,★★$^{(13)}$,★★$^{(14)}$, ★★$^{(15)}$,★★$^{(16)}$,★★$^{(17)}$ [#1]	Displayed time of sequential channel setting ★$^{(1)}$: Screen setting (0 ~ 2) 0 : Single screen 1 : SPLIT4 screen 2 : SPLIT9 screen ★★$^{(2)}$ ~ ★★$^{(17)}$: Displayed time of each camera (01 ~ 30) (When SPLIT4 screen and SPLIT9 screen is selected, set ★★$^{(2)}$ only.)	RC [#2] EX [#2]
	SQ★$^{(1)}$? [#1]	Acquire information on displayed sequential channel setting ★$^{(1)}$: Screen setting (0 ~ 2) 0 : Single screen 1 : SPLIT4 screen 2 : SPLIT9 screen	RC [#2] SQ★$^{(1)}$,★★$^{(2)}$,★★$^{(3)}$,★★$^{(4)}$,★★$^{(5)}$,★★$^{(6)}$,★★$^{(7)}$,★★$^{(8)}$,★★$^{(9)}$, ★★$^{(10)}$,★★$^{(11)}$,★★$^{(12)}$,★★$^{(13)}$,★★$^{(14)}$,★★$^{(15)}$,★★$^{(16)}$,★★$^{(17)}$ [#2] (Same as Displayed sequential channel setting shown above.) (When SPLIT4 screen and SPLIT9 is selected, only ★★$^{(2)}$ is output.)
	SM★$^{(1)}$? [#1]	Acquire information on displayed time of sequential channel setting ★$^{(1)}$: Screen setting (0 ~ 2) 0 : Single screen 1 : SPLIT4 screen 2 : SPLIT9 screen	RC [#2] SM★$^{(1)}$,★★$^{(2)}$,★★$^{(3)}$,★★$^{(4)}$,★★$^{(5)}$,★★$^{(6)}$,★★$^{(7)}$,★★$^{(8)}$,★★$^{(9)}$,★★$^{(10)}$,★★$^{(11)}$,★★$^{(12)}$,★★$^{(13)}$,★★$^{(14)}$,★★$^{(15)}$,★★$^{(16)}$,★★$^{(17)}$ [#2] (Same as Displayed time of sequential channel setting shown above.) (When SPLIT4 screen and SPLIT9 is selected, only ★★$^{(2)}$ is output.)
	AC★ [#1]	ALARM REC CH. setting ★ : 0 ~ 1 0 : ALL 1 : SEP	RC [#2] EX [#2]
	AC? [#1]	Acquire information on ALARM REC CH. setting	RC [#2] AC★ [#2] ★ : 0 ~ 1 0 : ALL 1 : SEP
	CI★ [#1]	CH. TITLE setting ★ : 0 ~ 2 0 : TITLE 1 : CH. NO 2 : NONE	RC [#2] EX [#2]
	CI? [#1]	Acquire information on CH. TITLE setting	RC [#2] CI★ [#2] ★ : 0 ~ 2 0 : TITLE 1 : CH. NO 2 : NONE
	SW★★ [#1]	Multiplexer screen switch setting ★★ : 00 ~ 09 , 80 ~ 88 ,90 ~ 96 00 : SPLIT16 01 : SPLIT9a 02 : SPLIT9b 03 : SPLIT4a 04 : SPLIT4b 05 : SPLIT4c 06 : SPLIT4d 07 : Single screen sequential 08 : SPLIT4 screen sequential 09 : SPLIT9 screen sequential 80 ~ 88 : CH1 ~ CH9 (Single screen display) 90 ~ 96 : CH10 ~ CH16 (Single screen display)	RC [#2] EX [#2]
	SW? [#1]	Acquire information on Multiplexer screen switch setting	RC [#2] SW★★ [#2] (Same as Multiplexer screen switch setting shown above.)
TIMER PROGRAM	PG★$^{(1)}$,★$^{(2)}$,★$^{(3)}$,★★$^{(4)}$,★★$^{(5)}$,★★$^{(6)}$,★★$^{(7)}$, ★$^{(8)}$,★★★$^{(9)}$ [#1]	Timer program setting ★$^{(1)}$: SELECTED PATTERN (1 ~ 3) 1 : P1 2 : P2 3 : P3 ★$^{(2)}$: Program number(1 ~ 8) ★$^{(3)}$: Day of the week (0 ~ 8) 0 : SUN 1 : MON 2 : TUE 3 : WED 4 : THU 5 : FRI 6 : SAT 7 : DAY 8 : SPL ★★$^{(4)}$: Rec starting hour (00 ~ 23) ★★$^{(5)}$: Rec starting minute (00 ~ 59) ★★$^{(6)}$: Rec ending hour (00 ~ 23) ★★$^{(7)}$: Rec ending minute (00 ~ 59) ★$^{(8)}$: CAMERA USAGE pattern (0 ~ 2) 0 : A 1 : B 2 : C ★★★$^{(9)}$: Recording interval (001 ~ 008, SKP, PWR, ARC,AEJ) 001 : 25F 002 : 12.5F 003 : 8.33F 004 : 6.25F 005 : 5F 006 : 4.17F 007 : 2.5F 008 : 1F SKP : SKIP PWR : POWER ARC : ARCHIVE AEJ : EJECT (When SKP, PWR, ARC or AEJ is selected, set ★$^{(8)}$ to 0, 1, or 2.)	RC [#2] EX [#2]

	Commands	Functions	Status, when normal execute
TIMER PROGRAM	DW★(1),★(2),★(3) #1	SPECIAL DW setting ★(1) : SELECTED PATTERN (1 ~ 3) 1 : P1 2 : P2 3 : P3 ★(2) : Start day of the week (0 : SUN ~ 6 : SAT) ★(3) : End day of the week (0 : SUN ~ 6 : SAT)	RC #2 EX #2
	DW?★ #1	Acquire information on SPECIAL DW setting ★(1) : SELECTED PATTERN (1 ~ 3) 1 : P1 2 : P2 3 : P3	RC #2 DW★(1),★(2),★(3) #2 ★(1) : SELECTED PATTERN (1 ~ 3) 1 : P1 2 : P2 3 : P3 ★(2) : Start day of the week (0 : SUN ~ 6 : SAT) ★(3) : End day of the week (0 : SUN ~ 6 : SAT)
	CA★(1),★(2) #1	Clearing timer program ★(1) : SELECTED PATTERN (1 ~ 3) 1 : P1 2 : P2 3 : P3 ★(2) : Program number(1 ~ 8)	RC #2 EX #2
	PM★(1),★(2) #1	Acquire information on timer program setting ★(1) : SELECTED PATTERN (1 ~ 3) 1 : P1 2 : P2 3 : P3 ★(2) : Program number(1 ~ 8)	RC #2 MP★(1),★(2),★(3),★★4,★★(5),★★(6),★★(7),★(8),★★★(9) #2 ★(1) : SELECTED PATTERN (1 ~ 3) 1 : P1 2 : P2 3 : P3 ★(2) : Program number(1 ~ 8) ★(3) : Day of the week (0 ~ 8, -) 0 : SUN 1 : MON 2 : TUE 3 : WED 4 : THU 5 : FRI 6 : SAT 7 : DAY 8 : SPL ★★(4) : Rec starting hour (00 ~ 23, - -) ★★(5) : Rec starting minute (00 ~ 59,- -) ★★(6) : Rec ending hour (00 ~ 23,- -) ★★(7) : Rec ending minute (00 ~ 59,- -) ★(8) : CAMERA USAGE (0 ~ 2,-) 0 : A 1 : B 2 : C ★★★(9) : Recording interval (001 ~ 008, SKP, PWR, ARC, AEJ, - - -) 001 : 25F 002 : 12.5F 003 : 8.33F 004 : 6.25F 005 : 5F 006 : 4.17F 007 : 2.5F 008 : 1F SKP : SKIP PWR : POWER ARC : ARCHIVE AEJ : EJECT (−, − −, − − − is output on ★(3) ~ ★★★(9) when no program is set)
	PP★ #1	SELECTED PATTERN setting ★ : 1 ~ 3 1 : P1 2 : P2 3 : P3	RC #2 EX #2
	PP? #1	Acquire information on SELECTED PATTERN setting	RC #2 PP★ #2 ★ : 1 ~ 3 1 : P1 2 : P2 3 : P3
RECORDING SET UP	MC★★★ #1	REC interval setting ★★★ : REC MODE (001 ~ 008) 001 : 25F 002 : 12.5F 003 : 8.33F 004 : 6.25F 005 : 5F 006 : 4.17F 007 : 2.5F 008 : 1F (During stop)	RC #2 EX #2
	MD #1	Acquire information on REC interval setting	RC #2 MD★★★ #2 ★★★ : REC MODE (001 ~ 008) 001 : 25F 002 : 12.5F 003 : 8.33F 004 : 6.25F 005 : 5F 006 : 4.17F 007 : 2.5F 008 : 1F
	QR★ #1	Recording Picture Grade (IMAGE QUALITY) ★ : 1 ~ 5 1 : BASIC 2 : STANDARD 3 : MEDIUM 4 : HIGH 5 : SUPERIOR	RC #2 EX #2
	QR? #1	Acquire information on Recording Picture Grade	RC #2 QR★ #2 ★ : 1 ~ 5 1 : BASIC 2 : STANDARD 3 : MEDIUM 4 : HIGH 5 : SUPERIOR
	AM★★★ #1	Alarm REC interval setting ★★★ : 001 ~ 008 001 : 25F 002 : 12.5F 003 : 8.33F 004 : 6.25F 005 : 5F 006 : 4.17F 007 : 2.5F 008 : 1F	RC #2 EX #2

Command Codes

	Commands	Functions	Status, when normal execute
RECORDING SET UP	AS1 #1	Acquire information on Alarm REC interval setting	RC #2 AM★★★ #2 ★★★ : 001 ~ 008 001 : 25F 002 : 12.5F 003 : 8.33F 004 : 6.25F 005 : 5F 006 : 4.17F 007 : 2.5F 008 : 1F
	AD★★ #1	Alarm REC duration setting ★★ : 01 ~ 11 01 : MAN 02 : 2S 03 : 5S 04 : 10S 05 : 15S 06 : 30S 07 : 45S 08 : 1M 09 : 2M 10 : 5M 11 : 10M	RC #2 EX #2
	AS0 #1	Acquire information on Alarm REC duration setting	RC #2 AP★★ #2 ★★ : 01 ~ 11 (Same as Alarm REC duration setting shown above)
	QA★ #1	Alarm Recording Picture Grade (IMAGE QUALITY) ★ : 1 ~ 5 1 : BASIC 2 : STANDARD 3 : MEDIUM 4 : HIGH 5 : SUPERIOR	RC #2 EX #2
	QA? #1	Enquiry about Alarm Recording Picture Grade setting	RC #2 QA★ #2 ★ : 1 ~ 5 (Same as Alarm Recording Picture Grade shown above)
	AL★ #1	Pre-Alarm Recording setting ★ : 0 ~ 3 0 : OFF 1 : SHORT 2 : MEDIUM 3 : LONG (1 ~ 3 available in STOP mode)	RC #2 EX #2
	AL? #1	Acquire information on Pre-Alarm Recording setting	RC #2 AL★ #2 ★ : 0 ~ 3 0 : OFF 1 : SHORT 2 : MEDIUM 3 : LONG
	ES? #1	Acquire information on ESTD (estimated) TIME	RC #2 ES★★★$^{(1)}$,★★$^{(2)}$,★★$^{(3)}$ #2 ★★★$^{(1)}$: Day ★★$^{(2)}$: Hour ★★$^{(3)}$: Minute
A-REC/ M-DET	MS★ #1	MOTION DETECTION setting ★ : 0 ~ 1 0 : OFF 1 : ON	RC #2 EX #2
	MS? #1	Acquire information on MOTION DETECTION setting	RC #2 MS★ #2 ★ : 0 ~ 1 0 : OFF 1 : ON
REAR TERMINAL	MO★ #1	MODE OUT setting ★ : 0 ~ 3 0 : REC 1 : PLAY 2 : POWER 3 : REMAIN	RC #2 EX #2
	RM #1	Acquire information on MODE OUT setting	RC #2 MR★ #2 ★ : 0 ~ 3 0 : REC 1 : PLAY 2 : POWER 3 : REMAIN
	CL★$^{(1)}$,★★$^{(2)}$ #1	CALL OUT setting ★$^{(1)}$: 0 ~ 1 0 : HDD 1 : ARCHIVE ★★$^{(2)}$: 00 ~ 11 00 : NONE 01 : FULL 02 : 2% 03 : 4% 04 : 6% 05 : 8% 06 : 10% 07 : 15% 08 : 20% 09 : 30% 10 : 40% 11 : 50%	RC #2 EX #2
	CL?★ #1	Acquire information on CALL OUT setting ★$^{(1)}$: 0 ~ 1 0 : HDD 1 : ARCHIVE	RC #2 CL★$^{(1)}$,★★$^{(2)}$ #2 ★$^{(1)}$: 0 ~ 1 0 : HDD 1 : ARCHIVE ★★$^{(2)}$: 00 ~ 11 00 : NONE 01 : FULL 02 : 2% 03 : 4% 04 : 6% 05 : 8% 06 : 10% 07 : 15% 08 : 20% 09 : 30% 10 : 40% 11 : 50%
	RT★$^{(1)}$,★★$^{(2)}$ #1	CAPACITY REMAIN setting ★$^{(1)}$: 0 ~ 2 0 : HDD 1 : ARC 2 : NONE ★★$^{(2)}$: 02, 04, 06, 08, 10, 15, 20, 30, 40, 50(%) (When ★$^{(1)}$ is set to 2, it is not necessary to input ★★$^{(2)}$)	RC #2 EX #2
	RT? #1	Acquire information on CAPACITY REMAIN setting	RC #2 RT★$^{(1)}$,★★$^{(2)}$ #2 ★$^{(1)}$: 0 ~ 2 0 : HDD 1 : ARC 2 : NONE ★★$^{(2)}$: 02, 04, 06, 08, 10, 15, 20, 30, 40, 50(%) (When ★$^{(1)}$ is set to 2, ★★$^{(2)}$ is not output)

	Commands	Functions	Status, when normal execute
REAR TERMINAL	BZ✱[#1]	BUZZER setting ✱⁽¹⁾ : 0 ~ 3 0 : KEY 1 : WRNG 2 : REMAIN 3 : OFF	RC[#2]EX[#2]
	FS2 [#1]	Acquire information on BUZZER setting	RC[#2]BZ✱[#2] ✱⁽¹⁾ : 0 ~ 3 0 : KEY 1 : WRNG 2 : REMAIN 3 : OFF
SERVICE	PN [#1]	Acquire current power failure number	RC[#2]PN✱✱[#2] ✱✱ : power failure number (01 ~ 50, 00) (00 is shown when no power failure occurs)
	PT✱✱[#1]	Acquire information on power failure list ✱✱ : power failure number (01 ~ 50)	RC[#2]PT✱✱⁽¹⁾,✱✱⁽²⁾,✱✱⁽³⁾,✱✱⁽⁴⁾,✱✱⁽⁵⁾[#2] ✱✱⁽¹⁾ : Day ✱✱⁽²⁾ : Month ✱✱⁽³⁾ : Year ✱✱⁽⁴⁾ : Hour ✱✱⁽⁵⁾ : Minute (ER08[#2] is output when no power failure occurs)
	PC [#1]	Clearing POWER FAILURE list	RC[#2]EX[#2]
	MI [#1]	Initialization of the menu (available in MAIN MENU) (Refer to "Initializing menus" for all initialized menu. RS-232C setting menu is also initialized when executed.)	RC[#2]EX[#2]
	HM? [#1]	Acquire information on MAIN HDD ELAPSED TIME setting	RC[#2]HM✱✱✱✱✱✱[#2] ✱✱✱✱✱✱ : elapsed time (000000 ~ 999999)
	DH? [#1]	Acquire information on COPY ELAPSED TIME setting	RC[#2]DH✱✱✱✱✱✱[#2] ✱✱✱✱✱✱ : COPY elapsed time (000000 ~ 999999)
	AM? [#1]	Acquire information on ARCHIVE ELAPSED TIME setting	RC[#2]AM✱✱✱✱✱✱[#2] ✱✱✱✱✱✱ : ARCHIVE elapsed time (000000 ~ 999999)
	BR [#1]	ARCHIVE POINT RESET setting	RC[#2]EX[#2]
	CB [#1]	Stop the coping, restoring	RC[#2]EX[#2]
INITIAL SET UP	SD✱✱⁽¹⁾,✱✱⁽²⁾,✱✱⁽³⁾ [#1]	Current date setting ✱✱⁽¹⁾ : Day ✱✱⁽²⁾ : Month ✱✱⁽³⁾ : Year (00 ~ 30)	RC[#2]EX[#2]
	DT [#1]	Acquire information on current date setting	RC[#2]TD✱✱⁽¹⁾,✱✱⁽²⁾,✱✱⁽³⁾,✱⁽⁴⁾[#2] ✱✱⁽¹⁾ : Day ✱✱⁽²⁾ : Month ✱✱⁽³⁾ : Year (00 ~ 30) ✱⁽⁴⁾ : Day of the week (0 ~ 6) 0 : SUN ~ 6 : SAT
	SC✱✱⁽¹⁾,✱✱⁽²⁾ [#1]	Current time setting ✱✱⁽¹⁾ : Hour ✱✱⁽²⁾ : Minute	RC[#2]EX[#2]
	TM [#1]	Acquire information on current time setting	RC[#2]TI✱✱⁽¹⁾,✱✱⁽²⁾,✱✱⁽³⁾[#2] ✱✱⁽¹⁾ : Hour ✱✱⁽²⁾ : Minute ✱✱⁽³⁾ : Second
	DF✱[#1]	HDD FULL setting ✱ : 0 ~ 3 0 : STOP 1 : REC•STANDBY 2 : REPEAT 3 : ALARM•PROT	RC[#2]EX[#2]
	FS0 [#1]	Acquire information on HDD FULL setting	RC[#2]TE✱[#2] ✱⁽¹⁾ : 0 ~ 3 0 : STOP 1 : REC•STANDBY 2 : REPEAT 3 : ALARM•PROT
	DE✱[#1]	AUTO EJECT setting ✱ : 0 ~ 1 0 : ON 1 : OFF	RC[#2]EX[#2]
	DE? [#1]	Acquire information on AUTO EJECT setting	RC[#2]DE✱[#2] ✱ : 0 ~ 1 0 : ON 1 : OFF
	RD✱[#1]	ARCHIVE DATA setting ✱ : 1 ~ 2 1 : ALL 2 : ALARM	RC[#2]EX[#2]
	RD? [#1]	Acquire information on ARCHIVE DATA setting	RC[#2]RD✱[#2] ✱ : 1 ~ 2 1 : ALL 2 : ALARM
	HP✱[#1]	HDD PB REPEAT setting ✱ : 0 ~ 1 0 : STOP 1 : REPEAT	RC[#2]EX[#2]
	HP? [#1]	Acquire information on HDD PB REPEAT setting	RC[#2]HP✱[#2] ✱ : 0 ~ 1 0 : STOP 1 : REPEAT
	AW✱[#1]	ARCHIVE OVERWRITE setting ✱ : 0 ~ 1 0 : OFF 1 : ON	RC[#2]EX[#2]
	AW? [#1]	Acquire information on ARCHIVE OVERWRITE setting	RC[#2]AW✱[#2] ✱ : 0 ~ 1 0 : OFF 1 : ON
	MR✱[#1]	FIFO/OVERWRITE MODE setting ✱ : 0 ~ 1 0 : OFF 1 : ON	RC[#2]EX[#2] (Only activated when the HDD is connected to ID4.)
	MR? [#1]	Acquuire informatoin on FIFO/OVERWRITE MODE setting	RC[#2]MR✱[#2] ✱ : 0 ~ 1 0 : OFF 1 : ON (Only activated when the HDD is connected to ID4.)

Command Codes

	Commands	Functions	Status, when normal execute
INFORMATION	HE? [#1]	Acquire information on RECORDED PERIOD of HDD	RC [#2] HE ★★(1), ★★(2), ★★(3), ★★(4), ★★(5), ★★(6), ★★(7), ★★(8), ★★(9), ★★(10), ★★(11), ★★(12) [#2] ★★(1) : Start Day ★★(2) : Start Month ★★(3) : Start Year ★★(4) : Start Hour ★★(5) : Start Minute ★★(6) : Start Second ★★(7) : End Day ★★(8) : End Month ★★(9) : End Year ★★(10) : End Hour ★★(11) : End Minute ★★(12) : End Second When no recording : RC [#2] HE FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF [#2]
	AE? [#1]	Acquire information on RECORDED PERIOD of COPY DEVICE	RC [#2] AE ★★(1), ★★(2), ★★(3), ★★(4), ★★(5), ★★(6), ★★(7), ★★(8), ★★(9), ★★(10), ★★(11), ★★(12) [#2] ★★(1) : Start Day ★★(2) : Start Month ★★(3) : Start Year ★★(4) : Start Hour ★★(5) : Start Minute ★★(6) : Start Second ★★(7) : End Day ★★(8) : End Month ★★(9) : End Year ★★(10) : End Hour ★★(11) : End Minute ★★(12) : End Second When no recording : RC [#2] AE FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF [#2]
	RJ? [#1]	Acquire information on RECORDED PERIOD of ARCHIVE DEVICE	RC [#2] RJ ★★(1), ★★(2), ★★(3), ★★(4), ★★(5), ★★(6), ★★(7), ★★(8), ★★(9), ★★(10), ★★(11), ★★(12) [#2] ★★(1) : Start Day ★★(2) : Start Month ★★(3) : Start Year ★★(4) : Start Hour ★★(5) : Start Minute ★★(6) : Start Second ★★(7) : End Day ★★(8) : End Month ★★(9) : End Year ★★(10) : End Hour ★★(11) : End Minute ★★(12) : End Second When no recording : RC [#2] RJ FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF [#2]
	DV? [#1]	Acquire information on ID number of CONNECTED SCSI DEVICE	RC [#2] DV ★(1), ★★★(2), ★(3), ★★★(4), ★(5), ★★★(6), ★(7), ★★★(8), ★(9), ★★★(10), ★(11), ★★★(12) [#2] ID0 ★(1) : Type of DEVICE ★★★(2) : Capacity ID1 ★(3) : Type of DEVICE ★★★(4) : Capacity ID2 ★(5) : Type of DEVICE ★★★(6) : Capacity ID3 ★(7) : Type of DEVICE ★★★(8) : Capacity ID4 ★(9) : Type of DEVICE ★★★(10) : Capacity ID5 ★(11) : Type of DEVICE ★★★(12) : Capacity ★(1), ★(3), ★(5), ★(7), ★(9), ★(11) : 0 ~ 3 0 : NONE 1 : HDD 2 : RDD 3 : DDS ★★★(2), ★★★(4), ★★★(6), ★★★(8), ★★★(10), ★★★(12) : 000 ~ 103 (GB) (Capacity shown next to unused ID number, and Capacity of archive device and copying device is output as FFF.)
COPY SELECTION	DB ★(1), ★★(2), ★★(3), ★★(4), ★★(5), ★★(6), ★★(7), ★★(8), ★★(9), ★★(10), ★★(11), ★★(12), ★★(13) [#1]	Setting and executing COPY/RESTORE ★(1) : 0 ~ 3 0 : HDD→COPY (COPY, OVERWRITE) 1 : HDD→COPY (COPY, ADD) 2 : ARC→HDD (RESTORE, OVERWRITE) 3 : COPY→HDD (RESTORE, OVERWRITE) ★★(2) : Start Day ★★(3) : Start Month ★★(4) : Start Year ★★(5) : Start Hour ★★(6) : Start Minute ★★(7) : Start Second ★★(8) : End Day ★★(9) : End Month ★★(10) : End Year ★★(11) : End Hour ★★(12) : End Minute ★★(13) : End Second <Copy up to the maximum capacity of media> 31, 12, 00, 10, 10, 10 (Start time) FF, FF, FF, FF, FF, FF (End time) <Copy new data to media up to its maximum capacity> FF, FF, FF, FF, FF, F1 (Start time) FF, FF, FF, FF, FF, F1 (End time)	RC [#2] EX [#2]

	Commands	Functions	Status, when normal execute
SEARCH SELECTION	TF★★(1),★★(2),★★(3), ★★(4),★★(5),★★(6) #1	TIME DATE SEARCH setting ★★(1) : Day ★★(2) : Month ★★(3) : Year ★★(4) : Hour ★★(5) : Minute ★★(6) : Second	RC #2 EX2 #2 (given when search is completed)
	IF★★★ #1	INDEX SEARCH (forward) setting ★★★ : 001 ~ 099	RC #2 EX1 #2 (given when search is completed)
	IR★★★ #1	INDEX SEARCH (reverse) setting ★★★ : 001 ~ 099	RC #2 EX1 #2 (given when search is completed)
	SF #1	SKIP SEARCH (forward)	RC #2 EX #2
	SR #1	SKIP SEARCH (reverse)	RC #2 EX #2
	AN #1	Acquire a current alarm recording number	RC #2 AN★★★★ #2 ★★★★ : 0001 ~ 9999
	AT★★★ #1	Acquire information on selected alarm recording ★★★ : ★★★ th alarm information on alarm list (001 ~ 800)	RC #2 AT★★(1),★★(2),★★(3),★★(4),★★(5),★★(6),★★(7) #2 ★★(1) : Day ★★(2) : Month ★★(3) : Year ★★(4) : Hour ★★(5) : Minute ★★(6) : Second ★★(7) : Camera number (01 ~ 16)
	AQ? #1	Acquire a current alarm recording registration number	RC #2 AQ★★★ #2 ★★★ : 001 ~ 800
	AO?★★★ #1	Acquire alarm number that selected alarm recording registration number ★★★ : 001 ~ 800	RC #2 AO★★★★ #2 ★★★★ : 0001 ~ 9999
	AB★★★ #1	Searching alarm list that selected alarm recording registration number ★★★ : 001 ~ 800	RC #2 EX5 #2
	AF★★★★ #1	Searching selected alarm recording number ★★★★ : 0001 ~ 9999	RC #2 EX5 #2
	JS #1	Jump to start-point	RC #2 EX6 #2
OTHERS	WN #1	Acquire warning status	RC #2 WN★★,★★,......,★★ #2 ★★ : 00 ~ 11 00 : NONE 01 : HDD FULL 02 : HDD NEAR END 03 : NO SIGNAL 04 : COPY CHECK MEDIA/BACKUP CHECK MEDIA/ 　　RESTORE CHECK MEDIA 05 : COPY SIZE ERROR/BACKUP SIZE ERROR/ 　　RESTORE SIZE ERROR 06 : ARCHIVE FULL 07 : ARCHIVE NEAR END 08 : COPY OVERTAKE ERROR/ 　　BACKUP OVERTAKE ERROR 09 : COPY NEAR OVERTAKE/ 　　BACKUP NEAR OVERTAKE 10 : REC SYSTEM ERROR/COPY SYSTEM ERROR/ 　　BACKUP SYSTEM ERROR/ 　　RESTORE SYSTEM ERROR/SYSTEM ERROR 11 : COPY R/W ERROR/BACKUP R/W ERROR/ 　　RESTORE R/W ERROR
	CA0 #1	Clearing warning	RC #2 EX #2
	VS? #1	Acquire information on status of video input (During recording and when pressed the WARNING RESET button to reset the warning, replied status code "VS0".)	RC #2 VS★ #2 ★ : 0 ~ 1 0 : with Video Signal　1 : without Video Signal
	VN? #1	Acquire information on CH without video signal (During recording and when pressed the WARNING RESET button to reset the warning, replied only status code "VN".)	RC #2 VN★★(1),★★(2),★★(3),★★(4),★★(5),★★(6),★★(7), ★★(8),★★(9),★★(10),★★(11),★★(12),★★(13),★★(14),★★(15), ★★(16) #2 ★★ : CH without Video Signal (maximum of 16CH) (ER08 #2 is output when CH without Video Signal)

Command Codes

	Commands	Functions	Status, when normal execute
OTHERS	SS [#1] (MAIN DEVICE•HDD)	Acquire the current status	RC [#2] ST00 [#2] Power off RC [#2] ST01 [#2] during set up RC [#2] ST02 [#2] Power on/standby mode RC [#2] ST03 [#2] PB•Reverse speed search mode RC [#2] ST04 [#2] PB•Forward speed search mode RC [#2] ST05 [#2] PB•Playback mode RC [#2] ST06 [#2] PB•Pause mode RC [#2] ST09 [#2] RPB•Playback mode RC [#2] ST10 [#2] RPB•Pause mode RC [#2] ST11 [#2] REC•Recording mode RC [#2] ST12 [#2] REC•Pause mode RC [#2] ST13 [#2] A-REC (during standby)•Recording mode RC [#2] ST15 [#2] A-REC (during recording)•Recording mode RC [#2] ST17 [#2] Time date search RC [#2] ST19 [#2] Index search (FF) RC [#2] ST20 [#2] Index search (REW) RC [#2] ST21 [#2] Skip search (FF) RC [#2] ST22 [#2] Skip search (REW) RC [#2] ST25 [#2] Character search (FF) RC [#2] ST26 [#2] Character search (REW) RC [#2] ST27 [#2] Alarm list search RC [#2] ST28 [#2] Jump to start point RC [#2] ST29 [#2] Timer REC RC [#2] ST30 [#2] Reserve of Timer REC RC [#2] ST31 [#2] Timer reserve error RC [#2] ST33 [#2] Clearing device RC [#2] ST36 [#2] Restoring RC [#2] ST47 [#2] PRE-ALARM Recording•Standby mode
	SS1? [#1] (ARCHIVE DEVICE)	Acquire the current status	RC [#2] SS1,00 [#2] Power off RC [#2] SS1,01 [#2] during set up RC [#2] SS1,02 [#2] Power on/standby mode RC [#2] SS1,03 [#2] PB•Reverse speed search mode (RDD only) RC [#2] SS1,04 [#2] PB•Forward speed search mode (RDD only) RC [#2] SS1,05 [#2] PB•Playback mode RC [#2] SS1,06 [#2] PB•Pause mode RC [#2] SS1,09 [#2] RPB•Playback mode RC [#2] SS1,10 [#2] RPB•Pause mode RC [#2] SS1,17 [#2] Time date search RC [#2] SS1,19 [#2] Index search (FF) RC [#2] SS1,20 [#2] Index search (REW) RC [#2] SS1,21 [#2] Skip search (FF) (RDD only) RC [#2] SS1,22 [#2] Skip search (REW) (RDD only) RC [#2] SS1,25 [#2] Character search (FF) RC [#2] SS1,26 [#2] Character search (REW) RC [#2] SS1,27 [#2] Alarm list search RC [#2] ST1,28 [#2] Jump to start point RC [#2] SS1,29 [#2] Timer REC RC [#2] SS1,30 [#2] Reserve of Timer REC RC [#2] SS1,31 [#2] Timer reserve error RC [#2] SS1,33 [#2] Initializing device RC [#2] SS1,34 [#2] Archiving RC [#2] SS1,36 [#2] Restoring RC [#2] SS1,46 [#2] Rewinding (DDS only)

	Commands	Functions	Status, when normal execute
OTHERS	SS2? [#1] (Copy device)	Acquire the current status	RC [#2] SS2,00 [#2] Power off RC [#2] SS2,01 [#2] during set up RC [#2] SS2,02 [#2] Power on/standby mode RC [#2] SS2,03 [#2] PB•Reverse speed search mode (RDD only) RC [#2] SS2,04 [#2] PB•Forward speed search mode (RDD only) RC [#2] SS2,05 [#2] PB•Playback mode RC [#2] SS2,06 [#2] PB•Pause mode RC [#2] SS2,09 [#2] RPB•Playback mode RC [#2] SS2,10 [#2] RPB•Pause mode RC [#2] SS2,17 [#2] Time date search RC [#2] SS2,19 [#2] Index search (FF) RC [#2] SS2,20 [#2] Index search (REW) RC [#2] SS2,21 [#2] Skip search (FF) (RDD only) RC [#2] SS2,22 [#2] Skip search (REW) (RDD only) RC [#2] SS2,25 [#2] Character search (FF) RC [#2] SS2,26 [#2] Character search (REW) RC [#2] SS2,27 [#2] Alarm search RC [#2] ST2,28 [#2] Jump to start point RC [#2] SS2,29 [#2] Timer REC RC [#2] SS2,30 [#2] Reserve of Timer REC RC [#2] SS2,31 [#2] Timer reserve error RC [#2] SS2,33 [#2] Initializing media of device RC [#2] SS2,34 [#2] copying RC [#2] SS2,36 [#2] Restoring RC [#2] SS2,46 [#2] Rewinding (DDS only)
	DC✱ [#1]	Operation on DEVICE CHECK menu ✱ : 0 ~ 1 0 : PWR-OFF 1 : CONFIG/INITIALIZE	RC [#2] EX [#2]
	BT✱✱ [#1]	Boot-up delay setting ✱✱ : Second (00 ~ 99)	RC [#2] EX [#2]
	BT? [#1]	Acquire information on boot-up delay setting	RC [#2] BT✱✱ [#2] ✱✱ : Second (00 ~ 99)

Command Codes

SPECIAL FUNCTION MENU

	Commands	Functions	Status, when normal execute
SPECIAL FUNCTION MENU	DI✱ #1	Initializing the disk ✱ : 0 ~ 2 0 : HDD 1 : ARCHIVE 2 : COPY	RC #2 EX #2
	WN? #1	Acquire warning status for serviceman	RC #2 WN✱✱,✱✱,......,✱✱ #2 ✱✱ : 00 ~ 16 (MAX) 00 : NONE 01 : OVERTAKE ERROR 02 : HDD R/W ERROR 03 : DEVICE R/W ERROR 06 : NO SIGNAL 07 : SUB MICRO COMPUTER HANG UP 08 : TEMPERATURE SENSOR ERROR 09 : SYSTEM ERROR 11 : STOPPING THE FUN ERROR 12 : SYSTEM RE-STARAT 13 : FLASH MEMORY ERROR 14 : REC SYSTEM ERROR

Table of Error Code

Error code	Meaning of error
ER00 #2	No power supply
ER01 #2	–
ER02 #2	–
ER03 #2	–
ER04 #2	–
ER05 #2	WARNING ERROR
ER06 #2	Present time or Timer program has not been set
ER07 #2	Alarm recording underway
ER08 #2	Unfeasible (NAK)
ER09 #2	–
ER10 #2	Incorrect command
ER11 #2	Incorrect parameter
ER12 #2	Overflow on receiver
ER13 #2	Data was not received
ER14 #2	–
ER15 #2	Data clearing underway (Command not accepted)
ER16 #2	PASSWORD ERROR
ER17 #2	PASSWORD LOCK is set

Table of Status Code

Status code	Meaning of status
CE✱✱ #2	given when error occurred during copy/restore ✱✱ : Error code (02 ~ 04) 02 : Copy/restore size error 03 : Copy/archive/restore R/W error 04 : Copy/restore media error
DC✱ #2	given when DEVICE CHECK menu appears ✱ : 0 ~ 2 0 : Select PWR-OFF, CONFIG 1 : Select PWR-OFF, INITIALIZE 2 : Only PWR-OFF

Character Search

■ Character Search

Characters can be added to both visuals and audio using a PC when the unit is connected to a PC via the RS-232C interface. These characters will appear on screen during playback. (There is also the possibility that the characters will not be displayed.) In addition, searches of images incorporating these characters, a process called Character Search, can also be performed. Searches are carried out by designating the characters associated with a particular image.

♦ Character Search commands

Commands	Functions	Status,when normal execute
CR0 [#1]	Do not display characters on-screen (Playback only)	RC [#2] EX [#2]
CR1 [#1]	Display characters on-screen (Playback only)	RC [#2] EX [#2]
CR? [#1]	Acquire information on character display settings	RC [#2] CR★ [#2] (★ : 0-1) 0 : OFF 1 : ON
CM? [#1]	Acquire information on recalled display settings (Playback only)	RC [#2] CM★★,Text data [#2] ★★ : Character count (01-48) (Text data up to 48 characters)
CC [#1]	Clear character display	RC [#2] EX [#2]
CW★★, Text data (Up to 48 characters) [#1]	Create sets of written characters ★★ [(1)] : Character count (01-48)	RC [#2] EX [#2]
CM★★ [#1]	Record character sets ★★ : Camera number 01-16	RC [#2] EX [#2]
LF★★, Text data (Up to 48 characters) [#1]	Forward character search (During stop, pause, playback) ★★ : Character count (01-48) Abridged search by ✳ code Searches can be made using only a specified number of characters found at the head of recorded comments.	RC [#2] EX4 [#2] (Reply at the completion of search)
LR★★, Text data (Up to 48 characters) [#1]	Reverse character search (During stop, pause, playback) ★★ : Character count (01-48) Abridged search by ✳ code Searches can be made using only a specified number of characters found at the head of recorded comments.	RC [#2] EX4 [#2] (Reply at the completion of search)

♦ Characters can be used

Alphabet	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
ASCII code	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

Character	[#2]	%	(	)	-	.	/	:	<	>
ASCII code	32	37	40	41	45	46	47	58	60	62
Number	0	1	2	3	4	5	6	7	8	9
ASCII code	48	49	50	51	52	53	54	55	56	57

#2: a space

♦ Sample operation

1) Record characters "ABCDEF" and images simultaneously at the camera CH number ⑤.
(On the RS-232C settings screen, set DELIMITER to "CR".)

The following are the two steps required for recording characters:
① Set the character (or characters string) to be recorded;
② Record the selected character(s).
By using the CM command, characters which have been set once can be recorded any number of times. To record a different character set, use the CW command.

Command from personal computer	Replied status code from unit to a personal computer	Meaning
CW06,ABCDEF CR		Sending a command for setting "ABCDEF" .
	RC CR EX CR	The unit received a command and executed.
CM05 CR		Sending a command to record set characters at the camera CH number ⑤ (it is able to execute while recording).
	RC CR EX CR	The unit executed a command.

CR means a carriage return code (0DH).

• Set the CH. TITLE setting to "NONE" to display characters during segmented display mode.

2) Search for the scene associated with the recorded character set "ABCDEF". (On the RS-232C settings screen, set DELIMITER to "CR".)

Command from personal computer	Replied status code from unit to a personal computer	Meaning
CR1 CR		Display characters on-screen (Playback only).
	RC CR EX CR	The unit received a command and executed.
LF06,ABCDEF CR		Sending a command for serching "ABCDEF" by character search in a direction of the time being.
	RC CR EX4 CR	The unit received a command and executed.

CR means a carriage return code (0DH).

3) Search for the scene associated with the recorded character set "ABCDEFG". (On the RS-232C settings screen, set DELIMITER to "CR".)
By using abridged search by ✻ code, search can be made using only a specified number of characters found at the head of recorded characters.

For the recorded characters "ABCDEFG" ,searches can be made using any of the following patterns specified for number of character data.
Example of commands : LF02,A ✻ / LF03,AB ✻ / LF04,ABC ✻ / LF05,ABCD ✻ / LF06,ABCDE ✻ / LF07,ABCDEF ✻

Command from personal computer	Replied status code from unit to a personal computer	Meaning
CR1 CR		Display characters on-screen (Playback only).
	RC CR EX CR	The unit received a command and executed.
LF04,ABC ✻ CR		Sending a command for serching "ABC ✻" by abridged search by ✻ code in a direction of the time being.
	RC CR EX4 CR	The unit received a command and executed.

CR means a carriage return code (0DH).

• Character searches can only be performed during stop, pause, and playback modes.
• The unit will fast forward or rewind until it finds the character string, then shift into still frame mode.
• If the unit does not find the character string, it will stop automatically.
• When there are multiple instances of the same character string, repeat character search if the retrieved image is not the desired image.
• Character searches may be time-consuming as the process involves searching through all the data.
• Forward searching is the only option available when using a DDS device for playback.

•• ● Character Search

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Recording time table

■ Recording time table
Approximate recording time (if recording is made internal 60 GB HDD)

➡ This recording time display chart is only valid when PRIORITY in DEFINE GROUP SETTING has been set to "1" for all camera numbers.

➡ 25F, 8.33F, and 5F cannot be used for REC INTERVAL when the MOTION DETECTION setting is active.

IMAGE QUALITY / Field/sec.	25F	12.5F	8.33F	6.25F	5F	4.17F	2.5F	1F	NUMBER OF RECORDING FIELD
SUPERIOR	12H	1D 1H	1D14H	2D 2H	2D15H	3D 4H	5D 7H	12D16H	1,143,000
HIGH	18H	1D12H	2D 7H	3D 1H	3D20H	4D14H	7D16H	18D 9H	1,657,000
MEDIUM	1D 3H	2D 6H	3D 9H	4D13H	5D16H	6D19H	11D 9H	27D 7H	2,457,000
STANDARD	1D12H	3D	4D12H	6D	7D12H	9D 1H	15D 1H	36D 4H	3,257,000
BASIC	2D	4D 1H	6D 2H	8D 3H	10D 4H	12D 5H	20D 8H	48D21H	4,400,000

■ Pre-alarm recording time table
♦ Recording duration is set to "LONG".

IMAGE QUALITY / Field/sec.	25F	12.5F	8.33F	6.25F	5F	4.17F	2.5F	1F	NUMBER OF RECORDING FIELD
SUPERIOR	2s	4s	7s	9s	12s	14s	24s	57s	60
HIGH	3s	7s	10s	13s	17s	20s	34s	1min23s	87
MEDIUM	5s	10s	15s	20s	25s	31s	51s	2min3s	129
STANDARD	6s	13s	20s	27s	34s	41s	1min8s	2min44s	171
BASIC	9s	18s	27s	37s	46s	55s	1min32s	3min41s	231

♦ Recording duration is set to "MEDIUM".

IMAGE QUALITY / Field/sec.	25F	12.5F	8.33F	6.25F	5F	4.17F	2.5F	1F	NUMBER OF RECORDING FIELD
SUPERIOR	1s	3s	4s	6s	8s	9s	16s	38s	40
HIGH	2s	4s	7s	9s	11s	13s	23s	55s	58
MEDIUM	3s	6s	10s	13s	17s	20s	34s	1min22s	86
STANDARD	4s	9s	13s	18s	22s	27s	45s	1min49s	114
BASIC	6s	12s	18s	24s	30s	37s	1min1s	2min27s	154

♦ Recording duration is set to "SHORT".

IMAGE QUALITY / Field/sec.	25F	12.5F	8.33F	6.25F	5F	4.17F	2.5F	1F	NUMBER OF RECORDING FIELD
SUPERIOR	0s	1s	2s	3s	4s	4s	8s	19s	20
HIGH	1s	2s	3s	4s	5s	7s	11s	27s	29
MEDIUM	1s	3s	5s	6s	8s	10s	17s	41s	43
STANDARD	2s	4s	6s	9s	11s	13s	22s	54s	57
BASIC	3s	6s	9s	12s	15s	18s	30s	1min13s	77

Troubleshooting

If problems with the unit persist even after you've followed the suggestions below, please disconnect the power cord and contact the retailer from whom you purchased the unit.

	Description of problem	Please consult the following	Page
INSTALLATION	The unit will not turn on.	Is the power cord properly plugged in?	-
		Is the LOCK indicator light on?	6,64
		Is the TIMER REC indicator light on?	6
	Power is on, but the unit will not operate.	Is the LOCK indicator light on?	6,64
		Is the POWER button blinking? (The unit cannot be operated when the POWER button is blinking and it's the same when the other buttons and indicators are blinking.)	6
		It is possible that the safety features are in operation. Restart the unit by pressing the RESET button located at the back of the unit using a ballpoint pen or similar object.	8,64
		Is the remote indicator light on? Press the communication setting button to turn it off.	6
	Images are not appearing on the monitor.	Are the monitor and camera(s) connected correctly?	18
		Is the unit receiving an input signal from the selected camera? Check this by setting the unit to SPLIT 16.	42
	The quality of the monitor picture is poor.	Is the connecting cord connected correctly?	-
		Is the camera's focus adjusted correctly?	-
RECORDING	The unit will not start recording.	Is there any recording space left on the disk?	-
		The unit begins recording only after the specified recording time. Was the unit stopped during the specified recording time?	13
		Is the PRE ALARM REC indicator light on?	6
	The unit will not stop recording.	Is the LOCK indicator light on?	6,64
		Is the unit running in Timer Recording mode? If so, cancel the Timer Recording and press the TIMER REC button once again.	6
	The unit will not perform Repeat Recording.	Is the unit running in Repeat Recording mode?	54
	The unit will not perform Timer Recording.	Are the date and current time set accurately?	11
		Are the Recording Start-/End-times and the recording interval set correctly?	13,50,51
		If the recording interval has been set correctly, then has the recording medium been placed in the unit? Has the recording medium's write-protect been removed?	-
		Is the HDD Repeat Recording setting set on REC•STANDBY?	54
	The unit will not perform Alarm Recording.	Is the unit in stand-by mode?	6
		Are the peripheral switches, etc., connected correctly?	18,19
PLAYBACK	The unit will not perform playback.	Is the LOCK indicator light on?	6,64
		Has the image data been erased?	26
		Has the playback device been selected correctly?	59
		Is the PRE ALARM REC indicator light on?	6
PERIPHERAL RECORDING DEVICE	The copying device/archive device does not respond.	Has the recording medium been inserted correctly into the unit?	-
		Is the unit currently in the middle of loading the recording medium?	-
		Has the playback device been selected correctly?	59
	Power is on, but I cannot get past the "SETTING UP ..." display.	Has the peripheral recording device been selected correctly?	19
		Is the peripheral recording device's SCSI ID number set correctly?	19
		Is the SCSI TERMINATION switch off?	8

	Description of problem	Please consult the following	Page
OTHERS	The unit will not perform the motion detection function.	Is the motion detection in the <INTIAL SET UP> menu setting on?	32
		Is the value of the MOTION THRESHOLD setting greater than the DOT value entered in the SET DETECTION MASK setting?	39,40
		The MOTION DETECTION function cannot be accessed when menus are left open. (The M-DET indicator light is off when the MOTION DETECTION cannot be accssed.)	40
	The unit will not respond to PC control.	Is the RS-232C setting set correctly?	8,65
		Are the unit and computer connected correctly?	-
		Is there a defect in the connecting cable?	-
		Is the proper connecting cable being used?	-
		Is the remote indicator light on? Press the communication setting button to turn it off.	6
	The DEVICE CHECK menu does appear when power is turned on.	Is peripheral device's SCSI ID setting set correctly?	19
		Inspect the connecting cable.	-
	The unit is not detecting its peripheral recording device(s).	Is the SCSI TERMIMATION switch on?	8
		Have the peripheral devices been disconnected?	-
		Are the recommended peripheral devices being used?	-
	Black screens are being displayed during multi-screen display.	Operations settings have not been made, in the Camera Operation Setting parameter of the DEFINE GROUP SETTING. Input from cameras displaying the " - " symbol will appear black on the monitor.	14,36
	Button operation is not working.	Is the PLAY DEVICE indicator light blinking? Wait until the light stays on, then start operation once more. If the light does not stop blinking for a long period, use the RESET button located at the back of the unit.	7
		Is the LOCK function or the PASSWORD LOCK function in effect? If so, please cancel the function(s).	64
	Button operation of camera numbers is not working.	Is the Menu screen being displayed? (Camera number buttons cannot be used when the Menu screen is displayed.)	12
		Is the unit currently accessing a peripheral recording device? Check the ACCESS indicator.	6

■ Glossary

Simultaneous Backup (Copying) method
In Simultaneous Backup (Copying), images input from the cameras are recorded once on the unit's hard disk and simultaneously copied from the hard disk onto a removable archive/copying medium. In addition, the unit marks the end of backup recording time through the use of the Archive Pointer.

Archive Pointer
The Archive Pointer is used to mark, on the archive medium, the completion of a backup process. For example, 100 hours of data recorded on the unit's hard disk is to be transferred to a medium with only 80 hours of available recording space. When the backup process is completed, the Archive Pointer will memorize the hard disk's 80-hour mark. When the next backup process is initiated, backup will begin at this point.

Copying Device
The copying device is the peripheral device assigned to SCSI ID5. By using the unit's COPY button, this device can be made to copy (restore) image data recorded over a designated time frame.

Archive Device
The archive device is the peripheral device assigned to SCSI ID4, and performs the following: backup specification using the ARCHIVE button or Timer Program, and backing up of image data using the Restore function in the Copy settings.

Restore
Restore is the process in which image data transferred to the peripheral recording device is restored on the unit's hard disk. During the Restore process, image data currently stored on the unit's hard disk is completely over-written.

SCSI Interface
The SCSI interface is the connection used expressly for transferring image data between the unit and its peripheral devices. Each peripheral is connected to the unit in a daisy-chain configuration, and is given a unique ID number for detection/identification by the unit.

Relation of recording operation to the number of cameras and recording interval settings
The recording pattern of this unit is as illustrated in the diagram below. Image data input from all the connected cameras is recorded sequentially at a rate of [number of cameras x recording interval]. (25F recording interval during normal recording, and 12.5F recording interval when the M-DET SETTING is active.) For example, when four cameras are recording at intervals of 1 second, the unit takes four seconds to receive one cycle of image data from the cameras. When this data is played back on a single-screen, the display is refreshed once every four seconds.

Circuit recording interval per camera
[recording interval x # of cameras]
1 second x 4 cameras = 4 seconds
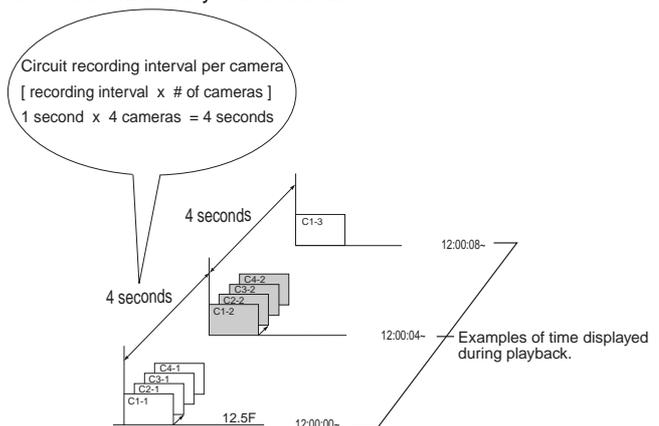
Warnings and CALL OUT output

■ Warnings and their appropriate countermeasures

Options in the CALL OUT options column:
• Selectable: CALL OUT output can be selected/de-selected on the menu.
• Fixed: a CALL OUT signal is emitted without prior selection of this function using the menu.

Warning	Status	Countermeasure	Canceling the warning	CALL OUT output	Reference
HDD FULL	The internal hard disk drive is full when either "STOP" or "ALARM•PROT" has been selected in "REPEAT".	• When the warning is canceled, the unit will start over-writing the oldest data remaining in the hard disk drive. • Archive or copy data as necessary.	Press the WARNING RESET button.	Selectable	54 27,28 60-63
HDD NEAR END	The storage capacity of the hard disk drive is approaching the value entered into the HDD capacity setting.	• Archive or copy data as necessary.	Press the WARNING RESET button.	Selectable	27,28
ARCHIVE FULL	The storage medium in the backup recording device is full.	• Replace the medium in the backup recording device.	Press the WARNING RESET button.	Selectable	27,28
ARCHIVE NEAR END	The limit of the archive medium's storage capacity is being reached.	• Replace the medium in the backup recording device.	Press the WARNING RESET button.	Selectable	27,28
COPY OVERTAKE ERROR ARCHIVE OVERTAKE ERROR	Non-backed up data was over-written while the HDD was in Repeat mode.	• If you do not wish to have the data over-written, stop recording. • Change the settings for recording interval and image quality. (More specifically, lengthen intervals and lowre image quality.)	Press the WARNING RESET button.	Fixed	60-63
COPY NEAR OVERTAKE ARCHIVE NEAR OVERTAKE	The HDD is in Repeat mode, and data which has not been backed up will be over-written. (The amount of time remaining before the unit begins over-writing is approx. 0.5% of the time indicated as the possible recording duration.)	• If you do not wish to have the data over-written, stop recording. • Change the settings for recording interval and image quality. (More specifically, lengthen intervals and lowre image quality.)	Press the WARNING RESET button.	Fixed	60-63
COPY SIZE ERROR ARCHIVE SIZE ERROR RESTORE SIZE ERROR	When using the copy or restore functions, either the amount of data to be transferred exceeds the limits of the storage medium, or there is no data to be copied.	• Reset the range of backup or copying. • Replace the archive/copy medium.	Press the WARNING RESET button.	Fixed	60-63
COPY CHECK MEDIA 1 ARCHIVE CHECK MEDIA 1 RESTORE CHECK MEDIA 1	An error has occurred in either the RDD device or the DDS device.	• Check the storage medium in the RDD or DDS device. (Insert medium if there is none. If medium is present and you with to use it, undo the write-protection. If medium is present and you do not wish to use it, replace the medium.)	Press the WARNING RESET button.	Fixed	60-63
NO SIGNAL (① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯) [The warning will indicate the number of the non-functioning camera.]	Visual signal was absent for over 5 seconds during recording.	• Check whether the unit and camera are properly connected, and that electricity is on. • Check whether the visual signal is being properly outputted. • Check whether the unit's camera setting is set to an empty channel.	• Either turn off recording or, if the visual signal has been restored, cancel the warning • Press the WARNING RESET button.	Fixed	14,18,36
SYSTEM ERROR REC SYSTEM ERROR COPY SYSTEM ERROR ARCHIVE SYSTEM ERROR RESTORE SYSTEM ERROR	SCSI connection error or system malfunction.	• Confirm that the SCSI cable is properly connected. • Restart operation. • Inspect the HDD/archive/copy device.	Press the WARNING RESET button.	Fixed	19,20
COPY R/W ERROR ARCHIVE R/W ERROR RESTORE R/W ERROR	A data-writing error occurred during backup or copying.	• Inspect the archive/copy device.	Press the WARNING RESET button.	Fixed	19

Specifications

Rated Power Supply:	AC 100-240V 50/60Hz
Rated Input:	1.0 - 0.5A (100-240V)
Color System:	PAL-type color system.
Operating Temperature:	41°F-104°F (5°C to 40°C).
Relative Humidity:	Max.80(%)
Altitude:	Max.2000(m)
Dimensions:	425(Width) x 380(Depth) x 113(Height)(mm).
Weight:	7.5kg
Recording System	Digital recording system with JPEG compression method.
Sampling	13.5MHz
Data Compression	JPEG
Compression Unit	Field
Resolution	684 x 288
Recording Device	60GB HDD

Video Input:	16 Input BNC-Connector:	1.0 V(p-p), 75 ohms.
Monitor Output:	S-Connector:	Y-Signal: 1.0 V(p-p), 75 ohms.
		C-Signal: 0.286 V(p-p), 75 ohms.
	BNC-Connector:	1.0 V(p-p), 75 ohms.
Throughout Output:	16 Output BNC-Connector:	1.0 V(p-p), 75 ohms.

Timer Program:	8programs-Daily start and stop time for one week x3set.
Memory Backup:	Lasts for more than 1 month.

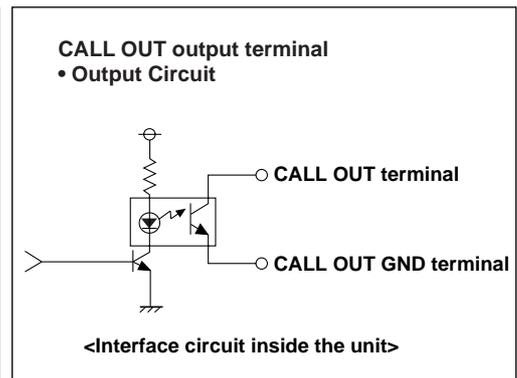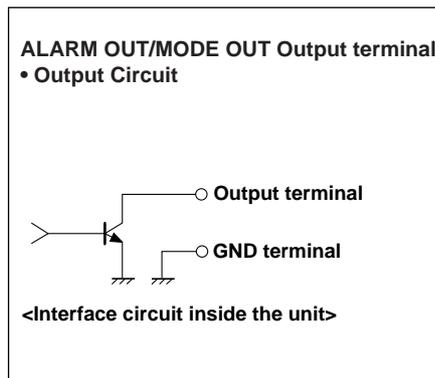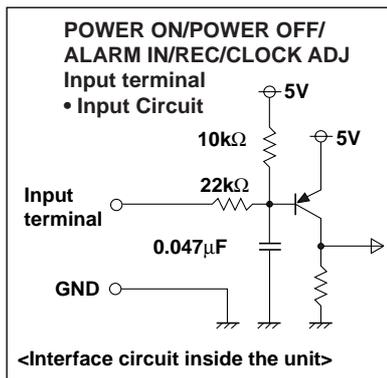|	
CONNECTORS	
POWER ON Input:	Terminal for power ON.　LOW: POWER OFF / HIGH: POWER ON
POWER OFF Input:	Terminal for power OFF.　LOW: POWER OFF
ALARM IN(1-16) Input:	Terminal for starting alarm recording.
CLOCK ADJ Input:	Terminal for adjusting clock.
REC Input:	Terminal for start recording.
GND:	Terminal for ground.
ALARM OUT Output:	Terminal for output while alarm recording is under way.
MODE OUT Output:	Terminal for indication of recording selected mode.
DC 5V OUT Output:	Terminal for DC 5V OUT.
CALL OUT/CALL OUT GND:	Terminal for external warning device.

Rating:			
ALARM OUT /	Active:	"Low" Level.	Max. Drive current 7mA DC.
MODE OUT	Non active:	Open.	Max. Voltage +24V DC.
ALARM IN / CLOCK ADJ /	Active:	When terminals are short-circuited	
REC		or "Low" Level voltage is applied.	
	Non active:	Open.	
CALL OUT /	Active:	ON.	Max. Drive current 7mA DC.
CALL OUT GND	Non active:	Open.	Max. Voltage +24V DC.

RS-232C	RS-232C (D-SUB 9pin) terminal for connection with personal computer.
SCSI	SCSI2 (Half pitch 50pin) terminal.

Accessories	
AC power cord (for U.K / for the Continent)	2
Ferrite core	3
Cable tie	3

Weight and dimensions shown are approximate.
Design and specifications are subject to change without notice.

POWER ON/POWER OFF/ ALARM IN/REC/CLOCK ADJ Input terminal • Input Circuit	ALARM OUT/MODE OUT Output terminal • Output Circuit	CALL OUT output terminal • Output Circuit
5V 10kΩ　　5V 22kΩ Input terminal 0.047μF GND \<Interface circuit inside the unit\>	Output terminal GND terminal \<Interface circuit inside the unit\>	CALL OUT terminal CALL OUT GND terminal \<Interface circuit inside the unit\>

●●● Specifications

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